

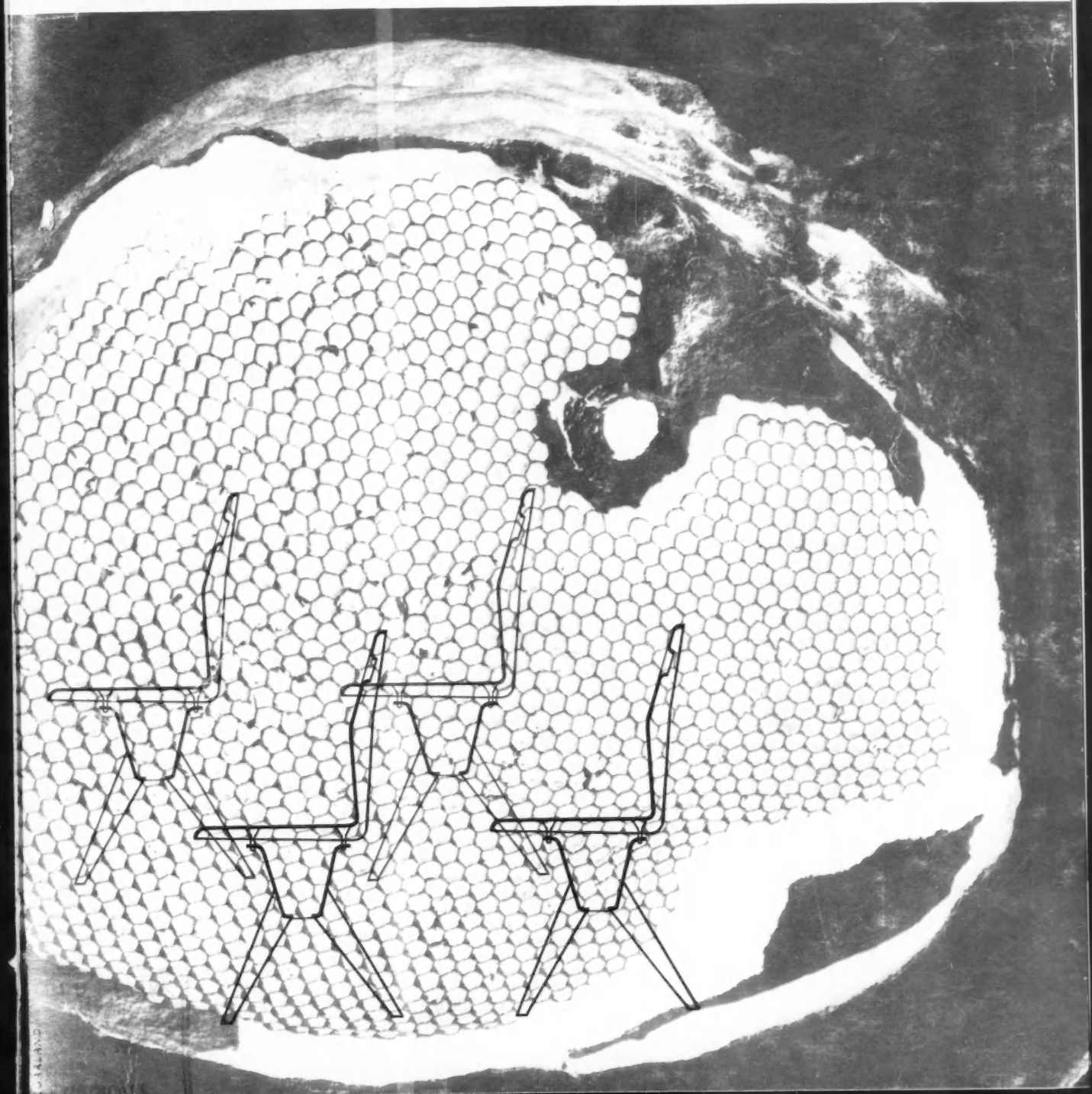
W/S. D462

The Council of Industrial Design

January 1957 No 97 Price 3s

Vol. 9

# <sup>a</sup>Design



STALAND

HENRION



## GILBEYGLASSES

Calling on a century of experience  
as Wine Shippers and Distillers,  
Gilbeys have created,  
for your drinking pleasure,  
a special range of hand-made Swedish crystal glasses.

GILBEY glasses are gift-packed in 'carry-home' cartons  
for the convenience of shoppers.

The reverse of each carton carries advice  
on the proper serving of wine and on the care of these glasses.

Available at Hunter's of Berkeley Street  
and selected branches of T. Foster & Co.  
Also at many other Glass Retailers & Off Licences throughout the United Kingdom.

Glasses designed for Gilbey's by R. Stennett-Willson MSIA

*Keeping ones  
hair on!*



In the 18th century, men shaved off all their hair and then hastily donned full-length periwigs! These were beautifully styled, curled and powdered. Because of their value, dandies soon became in danger of having their wigs snatched from their heads in broad daylight! In the peace and privacy of the home, decency was maintained by replacing the wig by a large and all-covering turban. The fashion at EKCO is to provide an equally good coverage in everything plastic. Designing, tooling and moulding—we do it all 'under one roof'. We have a very wide experience of plastics for all industries and purposes, and an extensive modern plant. For your next moulding job get in touch with EKCO PLASTICS!



**EKCO** plastics for Industry

E. K. COLE LTD. (Plastics Division) SOUTHFEND-ON-SEA, ESSEX Members of the British Plastics Federation.

HENRION



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## The result of teamwork



Stemmed goblets for the Hotel & Catering Trade  
designed by A. H. Williamson, A.R.C.A.

for the Sole Distributors,  
Johnsen & Jorgensen Flint Glass Limited,  
in conjunction with Britain's  
largest producers of Table Glassware,  
The United Glass Bottle Manufacturers Ltd.

**RAVENHEAD**  
REGD.  
**GLASSWARE**

MADE IN ENGLAND



*Buyers from all over  
the world*

*are served by* **THE DESIGN CENTRE**

*London*  
*28 Haymarket*

THE COUNCIL OF INDUSTRIAL DESIGN'S PERMANENT EXHIBITION OF WELL-DESIGNED BRITISH GOODS

TODAY'S PROBLEMS IN INDUSTRY

## Cutting Machining Time



In these days of competition both at home and abroad, machining time is a vital factor in maintaining competitive prices. It is expensive in labour and materials, and accounts for a considerable proportion of overall production costs. One way of cutting it to a minimum, however, is zinc die casting. Consider carburettors, for example. These are one of the first component parts for which zinc alloy die castings were regularly used, and as their design has become more and more complicated, die castings have proved themselves to increasing advantage. No other process allows such fast production of accurately held, complex shapes. Cored holes need only reaming or, where necessary, tapping; and the free machining qualities of zinc alloys make such operations easy and fast. Mating surfaces can often be used as cast. Justifiably this process is claimed to be the shortest distance between raw material and finished product.

*Write for list of members and publications describing the properties and uses of die castings to:—*

**ZADCA**

**ZINC ALLOY DIE CASTERS ASSOCIATION**

34 Berkeley Square, London, W.1. Telephone: GROsvenor 6636



British Waterways workman assembling a lock gate at Tipton, Staffs. The gate is the first of its kind to rely on resin adhesives instead of eighty cold driven rivets, and Beetle Adhesive—a B.I.P. product—is the chosen bonding material.

# the Wonder of Plastics



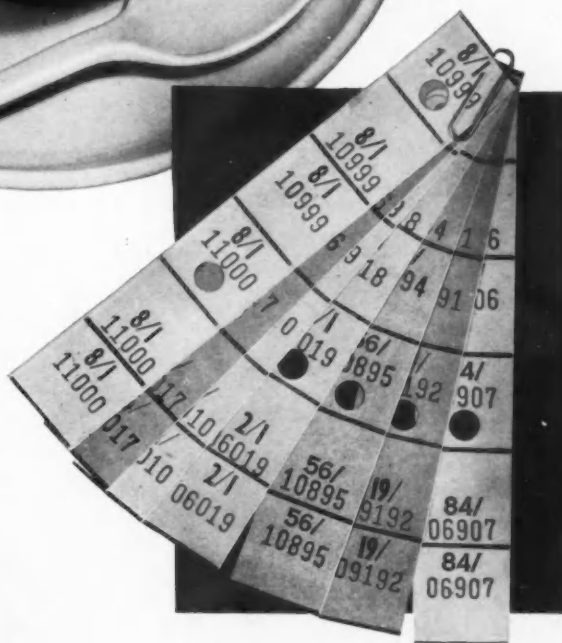
This new cup in the famous BFX range of houseware is made from Melmex—a B.I.P. product. Strong, shapely and colourful, it will not easily chip or crack and is equally suited to industrial catering or home use.

In laundries and locks, in tableware and textiles, plastics today play their part. Their role may be contributory, it may be fundamental, but the wonder of plastics is in their versatility, their infinite possibilities.

Types and grades are innumerable, each with its own properties—and limitations—presenting a wide field of choice to the intending user. The leading plastics materials manufacturers maintain extensive consultative and development services and none is better qualified to advise and assist than B.I.P.

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The full resources of the B.I.P. Research, Technical Development and Design services are at the disposal of manufacturers interested in the possibilities of plastics. Advice will gladly be given on any problem concerning plastics applications, irrespective of the type of material involved.



Laundries, these days, are using laundry tags of paper—wet-strengthened with Beetle Resins—a B.I.P. product. Even wet scrubbing has no effect on these tough tags. (Wet-strengthened paper made by Robert Craig & Sons Ltd., a subsidiary of the Associated Paper Mills Ltd.)

**B.I.P. CHEMICALS LTD • Oldbury • Birmingham** Phone: Broadwell 2061

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Six foot three. Six centuries old and more,  
 if you follow the family back ...  
 though there's no need.  
 For here is a very English  
 tall Englishman of today,  
 with Norman-French far distant,  
 and artistry close to hand.  
 Knows a lot about glass.  
 And what goes into glass. Try him ...



Good day to you, Henry. Busy?

*On this busy afternoon? The answer is yes ...  
 also that I can think of nothing nicer than  
 a Martini. You'll join me?*

Yes again—and choose my own glass as well!  
 The third on the left, over there ... with the  
 white and gold tracery. Do you do  
 these yourself? They're most beautiful.

*I design them ... organise them ... market them ...  
 The sheer skill comes from my craftsmen.  
 Now, to match the size and the shape of the  
 one in your hand I'd suggest ...  
 let me see ... Martini, straight, dry, cool!*

Just by itself? That's thought reading.

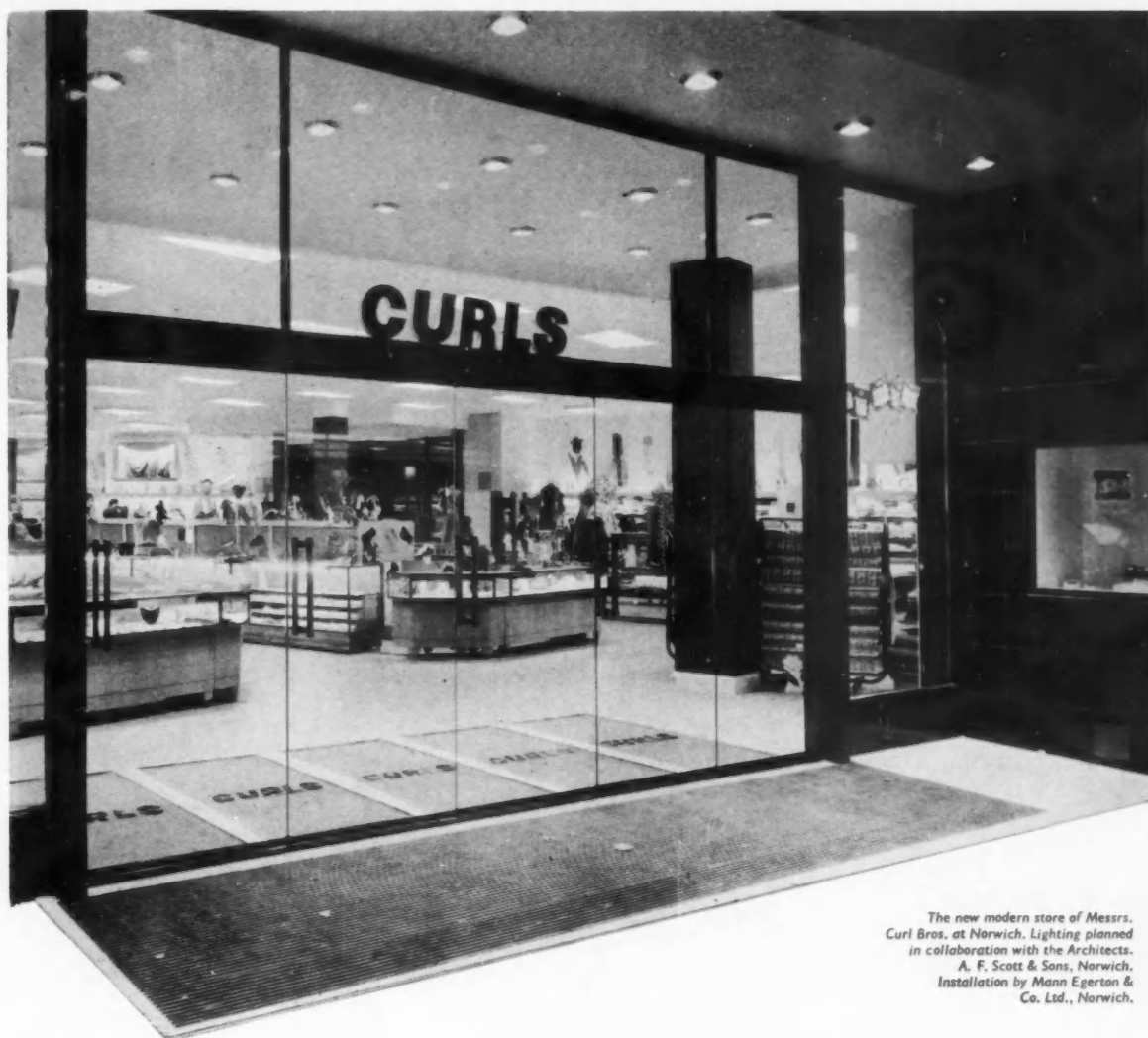
*It's a trend. Continental, no doubt. But it's  
 growing here, and I met it a lot in America.  
 "Dry Martini for you?" they'd say,  
 "...or a real Martini Dry, Lord Audley?"*



**Better drink**

**MARTINI**

**Sweet or Dry**



*The new modern store of Messrs. Curl Bros. at Norwich. Lighting planned in collaboration with the Architects. A. F. Scott & Sons, Norwich. Installation by Mann Egerton & Co. Ltd., Norwich.*

## For ways and means to imaginative lighting

Many of the more imaginative lighting schemes of recent years have been the result of close co-operation between architects, electrical contractors and the Philips Lighting Design Service.

The advice and assistance provided by this Philips Service is entirely free, and the experienced lighting engineers in each

Philips branch area can call on the accumulated knowledge of the Century House staff, which includes a fully qualified architect who has made a special study of lighting in its relation to architecture and colour.

*Philips will be happy to design for you—there is no charge.*



## PHILIPS ELECTRICAL LTD

LIGHTING DIVISION • CENTURY HOUSE • SHAFTESBURY AVENUE • LONDON, W.C.2

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## MODERN HOUSEWARES

The 'STRATFORD' percolator in chrome plated aluminium and the set of 'SONA' power pressed aluminium stewpans are new NCJ products. The stewpan handles have been specially designed to fit the hand and the plastic lid knob is provided with a wide base disc to protect the fingers from burns. All four products have been accepted by the CoID for Design Review.

SOLE MANUFACTURERS

**N. C. JOSEPH LTD**

THE ALUMINIUM WORKS, STRATFORD-ON-AVON

### THE 'STRATFORD'



percolator, 9 cups capacity, chrome plated aluminium, plastic handle and attachable stand

### THE 'SONA'

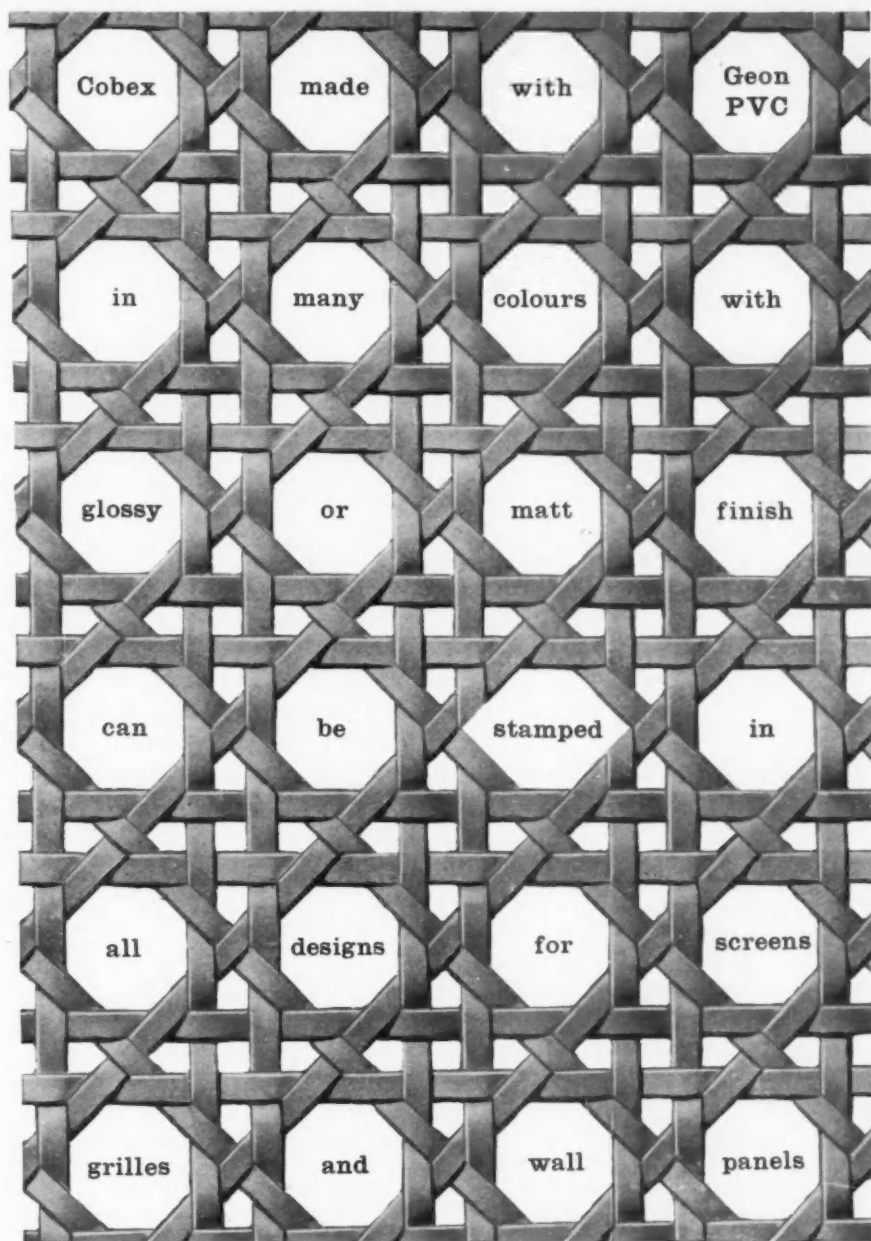


stewpans, new type plastic handle and disc-knob, flush fitting lid, in sets of three, 6", 7" and 8"

# Reading between lines made with GEON PVC

Part of a  
perforated  
Cobex rigid  
vinyl panel

Cobex rigid vinyl sheet made  
with Geon PVC perforated by  
G. A. Harvey & Co. (London) Ltd.



For further information about Geon PVC please write for  
descriptive booklet No. 9 free on request.



\* Geon\* is a regd. trade mark

## BRITISH GEON LIMITED

Sales and Technical Service

DEVONSHIRE HOUSE PICCADILLY LONDON W1

Telephone: MAYFAIR 8867



Leon Piesowocki has made this drawing of the Royal Palace at Copenhagen for us. He is a Polish artist now living in England. Cataclysm in Europe has brought to this country artists of outstanding ability. We seek them out, linking their originality with our own enlightened printing methods in the production of the finest quality design and print. Their imagination and our skill in presentation are at the service of all who are aiming to bring a fresh approach to their publicity.

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FOR HOME AND EXPORT

3 Bloomsbury Place,  
London, W.C.1  
Telephone: Langham 6801

*DESIGN magazine is printed by  
Balding & Mansell at their factory in  
Wisbech, Cambridgeshire.*



# Design

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BUSINESS MANAGER *Arthur Sudbery*

*Manufacturers are  
invited to consult  
the Council of  
Industrial Design's*

### RECORD OF DESIGNERS

*a free service of  
recommendation  
and introduction  
of designers  
to industry*

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In the second of a series of articles on stamp design, the author discusses methods of commissioning stamps for use in the United Kingdom

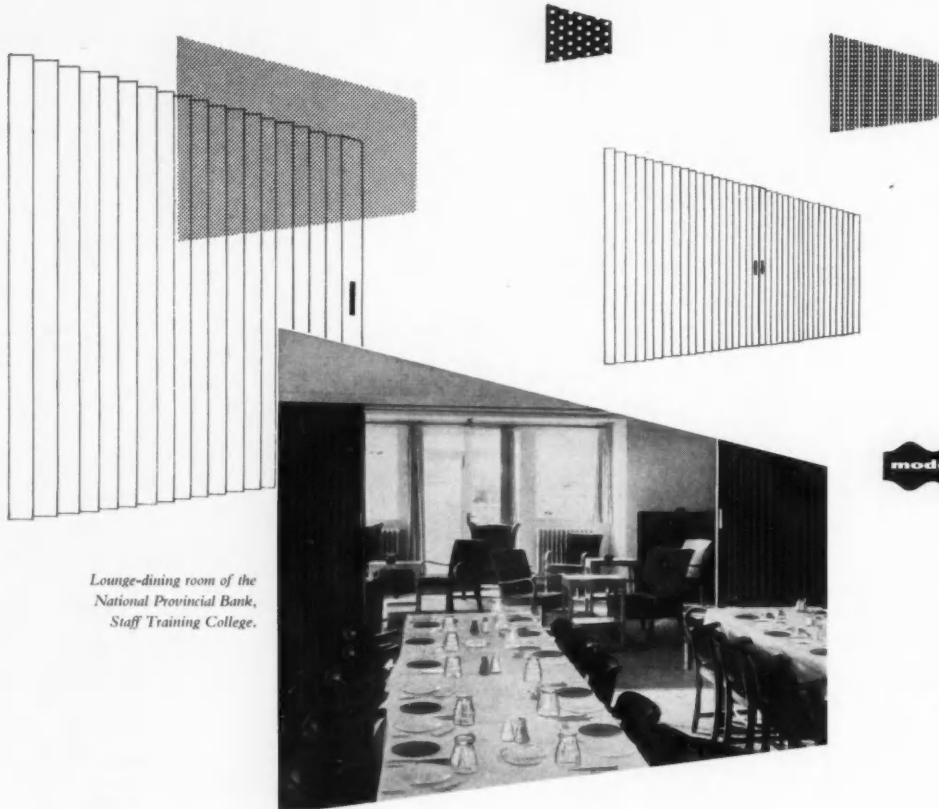
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**Editorial Circulation Advertisements** The Council of Industrial Design, The Design Centre, 28 Haymarket, London SW1 Tel: TRAFALGAR 8000 AND The Council of Industrial Design Scottish Committee, 46 West George Street, Glasgow C2 Tel: Glasgow DOUGLAS 3914

**Design** may be obtained from booksellers at home and abroad. Yearly subscription rate: UK 36s post free



*Lounge-dining room of the  
National Provincial Bank,  
Staff Training College.*

**modernfold**

*One room transformed into two, at the touch of  
a finger – simply by opening out the Modernfold  
'wall.' Covered with easy-to-clean plastic material*

## **a new view of the space problem**

*in a range of attractive colours and made to  
measure – to individual requirements.*

*Modernfold walls and doors are ideal*

*wherever space is at a premium.*

*Write now for full details.*

*make more room with*  
**modernfold**  
*expanding walls and doors*

HOME FITTINGS (GT. BRITAIN) LIMITED, DEPT. DI  
TUMBLE, LLANELLY, CARMARTHENSHIRE

ONE OF THE **BROCKHOUSE** COMPANIES

# Prospect and possibilities

OUR READERS will have noticed the steadily increasing number of pages in the magazine. The time has come, as we enter our ninth year, to enlarge the size of the page itself. This is a step to which we have long looked forward; it will enable us to give better service to our readers by improving the layout and enlarging the illustrations and, at the same time, extending the range of industries to which we can offer constructive comment.

We are only too well aware of the amount of paper which finds its way on to managerial desks, yet we have evidence that the magazine has become a 'must' to the increasing number of busy men who realise the growing importance of design in the successful running of their businesses. In this country we have built up readership among top management, sales and production executives, officials of local authorities and nationalised undertakings, industrial designers, architects, retail store managers, buyers and salesmen, and in a widening fringe of the general public. Abroad we have readers in 73 countries and the growing awareness that Britain is actively engaged in design pioneering in many fields cannot fail to have great prestige value which, given enthusiasm and drive, can be turned to account in export sales.

The CoID's greatest venture has been the opening of The Design Centre in London which has already been visited by about 500,000 people. The Centre displays durable consumer goods, and these will continue to be featured in the magazine's critical reviews of products from home and overseas factories.

Yet we shall endeavour to foster a wider responsive readership in such industries and services as light and heavy engineering, transportation, hotels and restaurants, publicity, display and packaging and to deal with such subjects as the legal protection of designs and the training and employment of designers.

It is our hope that those who pick up any point of special interest to themselves will not hesitate to write to us for information concerning its development to their own advantage. We are anxious to make the magazine a forum for the free exchange of constructive ideas on any aspect of design which affects industry or commerce. To that end our readers can be a source of great stimulation to us by putting forward their points of view. For instance, do other firms agree with the suggestion that the CoID would be giving industry valuable service if it organized short conducted tours abroad for staff designers, in order to enlarge their horizons beyond their own industries? Those who were privileged to travel abroad in the tours organized by the Design and Industries Association between the wars, in the company of such enthusiasts as Frank Pick, Harry Peach, Harold Stabler, Hamilton T. Smith and Bassett-Lowke will not easily forget the excitement of seeing fine things with the help of more experienced eyes than their own.

# Pointers



## The Design Centre: exhibitors' reactions

*To prepare a progress report on The Design Centre's first six months, the CoID asked manufacturers to provide information on the business which has resulted from exhibiting in the Centre. The following extracts from the many letters received lend convincing support to the remarks of W. J. Worboys, chairman CoID, who claimed at the opening of the Centre that its object "is unashamedly commercial".*

### New accounts opened

"... At least six new accounts have been opened by us recently, which we feel can be attributed to Design Centre publicity. In our opinion, this has been the most satisfactory form of advertising..."

J. R. WELSH

*Managing Director, W. S. Chrysaline Ltd, 282 High Street, Berkhamsted, Herts*

### More than satisfied

"... We have received numerous enquiries for 'Mela-war' tableware which have emanated from The Design Centre, and we are more than satisfied with the results which we are obtaining from the exhibition..."

T. G. BROOKE-HITCHING

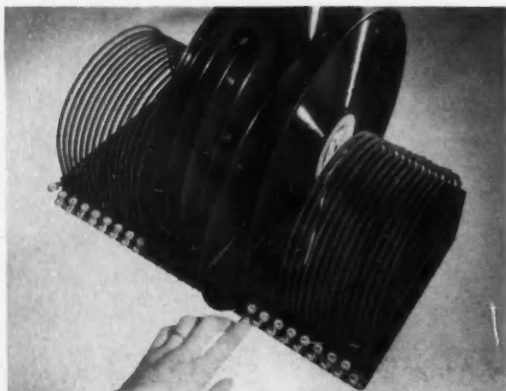
*Director, Ranton & Co Ltd, Rock Works, Commerce Road, Brentford, Middlesex*

### Sales increase for record rack

"... We are in the happy position of having increased our 'Selector' sales by 500 per cent since The Design Centre opened six months ago. Our exports include Australia, Canada, Portugal, Gold Coast, Japan and the Channel Isles. The demand at home has also increased enormously in the past six months..."

GEORGE F. BALL

*Director, George F. Ball & Co Ltd, 167 Stafford Street, Wolverhampton*



## Enquiries for cutlery

"... During the latter part of August and early September when our new black handle cutlery was on show, cards came in by every post and one young lady was kept busy replying to them individually. On one occasion a visitor to The Design Centre even went to the trouble and expense of a trunk call to the factory to ask whether we could supply her immediately, direct, with a complete cabinet of cutlery. Several magazines have asked for samples to photograph and at this second stage further shoals of enquiries began to come in, many from catering establishments and, a rather interesting point, hospital boards..."

C. M. CASS

*Director, John Sanderson & Son Ltd, Trafalgar Street, Sheffield*

## Best form of advertising

"... We are quite confident that The Design Centre in conjunction with the excellent magazine DESIGN is producing more results for the trade than any other form of advertising..."

ERIC BERESFORD

*Director, Beresford & Hicks, 131-139 Curtain Road, EC2*

## Demand in the shops

"... As an instance of the increase in business we can quote a small furniture knob which had previously been supplied to one main merchant dealing with architects. In the short time this has been on display over 150 enquiries have been received through The Design Centre alone. Buyers from some of the chief London stores had refused to stock them for some time until finally the number of personal enquiries proved the unquestionable public demand..."

RONALD E. BROOKES

*Manager of Design & Publicity, Brookes & Adams Ltd, Barr Street, Hockley, Birmingham 19*

## Export expansion

"... We feel that you will be interested to learn that as a result of the display of our products at The Design Centre, we have obtained a distributor for Kenya, Uganda, Tanganyika, and also one for Mexico City and are hopeful of concluding negotiations with a firm in Switzerland, Egypt and a large American organisation in this country for the sale of our products..."

I. S. PRICE

*Sales Manager, Dishmaster (London) Ltd, 151 Great Portland Street, W1*

# THE WIDER CONTEXT

DESIGN IS NOT AN ISOLATED ACTIVITY for the exclusive enjoyment of boardrooms, drawing offices and factories. The more specialised the designer and his product become the greater is the danger of losing touch with markets and people. Today there is a real need for the advertising agent and the public relations officer if designs are to be mass produced for the benefit of millions. But their assistance can do little for the designer who resolutely refuses to see his product in the wider context of its 'after life'.

If the test comes when the design is put to use, what functional and visual competition will it encounter? To suggest an answer we have chosen six newly conceived *environments*, each one of which embodies a different challenge to the industrial designer and the production team.



## OUTPOST

Turnhouse Airport in Edinburgh typifies the need for putting our best foot forward; a need which is common to all the networks of the British transport system: ships, railways, coaches, cars and airplanes. In British transports of all kinds foreigners and friends see Britain first – and first impressions tend to stick.

CLIENT *Ministry of Transport and Civil Aviation (Scottish Division)*

ARCHITECT *Robert H. Matthew*





## The wider context

### BED AND BREAKFAST

Why does the hotel trade send the Leofric to Coventry? It has much to teach other brewers and hoteliers, but few of them have raised the question of emulating this achievement elsewhere. The impossibility of obtaining a modern setting for your bed and breakfast – and works' dinner party for that matter – must be faced first. But that is only a preliminary reflection before we ask what is to become of our tourist trade and our prestige as a nation, if Britain lacks hotels well designed from plumbing to wallpaper.

CLIENT *Ind Coope & Allsopp Ltd*

ARCHITECTS (Building) *W. S. Hattrell & Partners*

(Interiors) *Ind Coope Architect's Department*

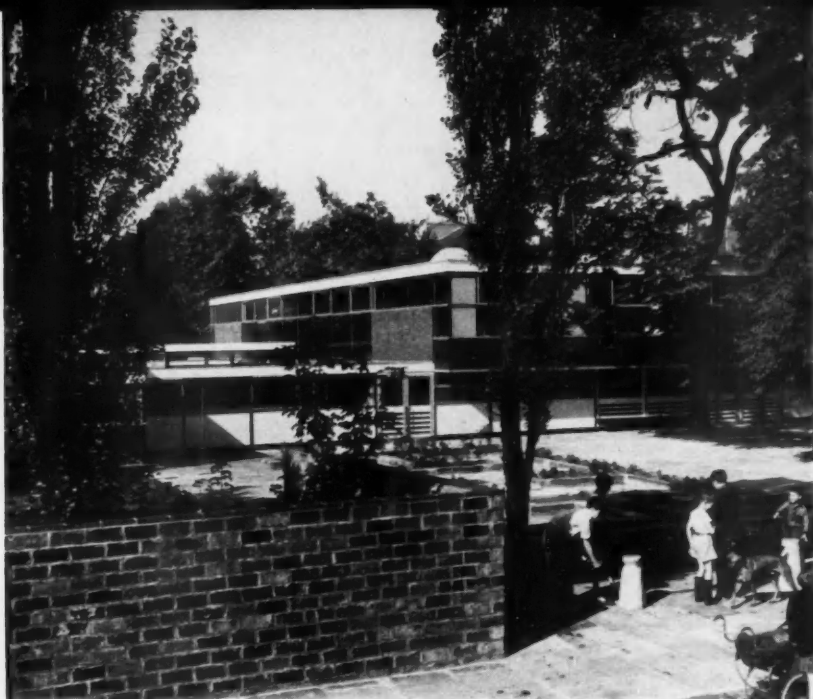


### AT HOME

The house at Little Aston Park in Staffordshire shows up a coming trend for domestic builders. Its construction in prefabricated galvanized steel framing – and its uniqueness in this country – suggest the need for further thought on houses factory made for simple assembly on the site. Home life in a space frame would be a new sensation for most of us, but in our conversion of the old, and our conventional construction of the new, we recognise the virtues of space and its convertibility into units of different sizes as needs change. Can industry supply the units we need?

CLIENT *E. D. Hinchliffe*

ARCHITECT *G. F. Horsfall*

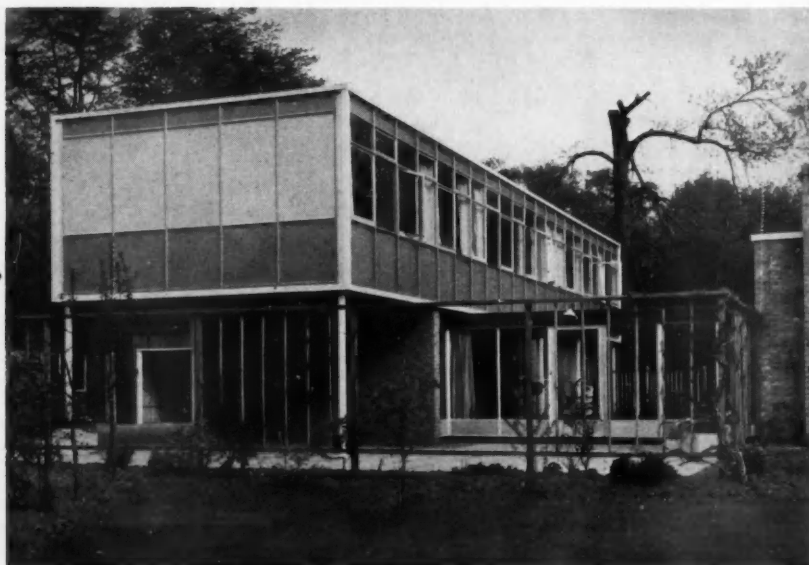


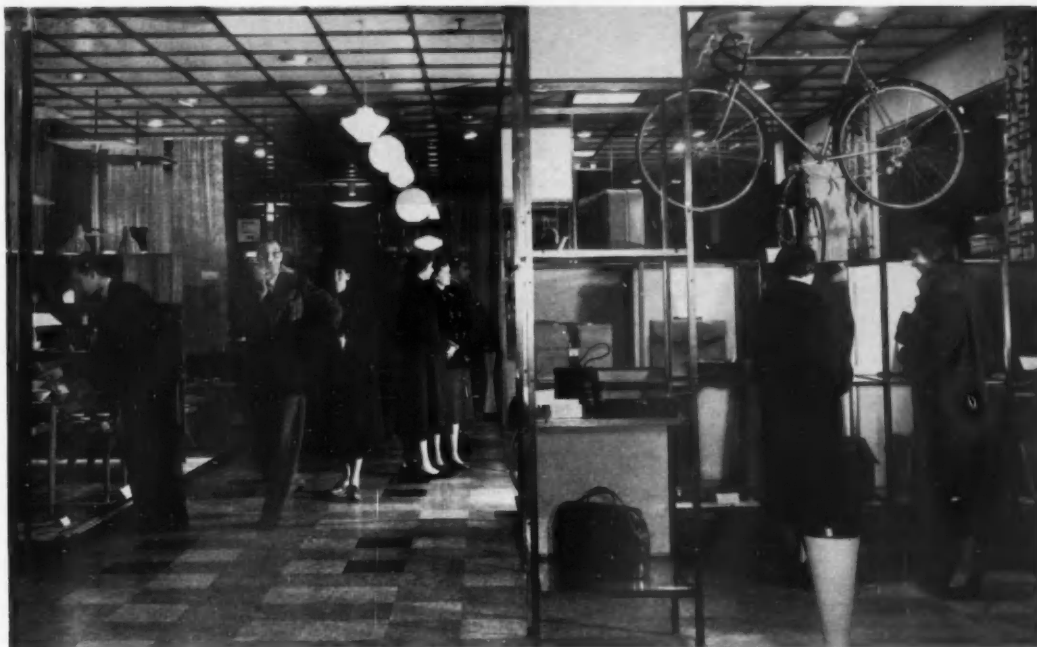
### EDUCATION

A new primary school is not unusual today, but to find this one at Brompton, within a few miles of the centre of London, is both exciting and encouraging. There is a newly recognised need to educate children by means of space and equipment directly suited to their age and natural interests. Most local authorities are aware of their responsibilities towards a child's environment; few designers and manufacturers of furniture, furnishings and school equipment have given the matter much thought, or attempted to make practical contributions as a corrective to the current spate of psychological theory.

CLIENT *LCC*

ARCHITECTS *Chamberlain, Powell & Bon*





## EXHIBITION

The Design Centre is familiar to readers and known by almost 500,000 visitors. As the parade ground for the best designs in British consumer goods it has recognised a marketing need and filled it. The Centre does not sell; it provides the environment in which the general public and trade buyers, as well as retailers and manufacturers, can compare at leisure the competitive merits of a thousand different items. New designs are accepted for display, the exhibition changes, and fresh comparisons can be made. Britain alone today offers this exacting test for the industrial designer to face.

CLIENT *CoID*

DESIGNERS *Nicholson Brothers*

## SELLING

Tyrrell & Green, the new Southampton store, reflects the retailer's growing conviction that the old ways and means of selling must make way for new. The product must also keep pace, not only with modern methods of packing for easy handling and storage, but with inventive techniques for presentation at the point of sale. The test comes when the customer's hand wavers towards his notecase – the test that distinguishes a good design from one that did not sell.

CLIENT *John Lewis Partnership Ltd*

ARCHITECTS *Yorke, Rosenberg & Mardall*



# Consumer needs and the designer

MICHAEL FARR

## CAN THE DESIGNER BE GUIDED?

*The commercial success of a mass produced object is not necessarily a true indication of usefulness to the consumer. Often it is purchased only because it is the best of its kind or the cheapest on the market. Is this inevitable or can market research techniques be used to provide the designer with more detailed information of real consumer needs? The question is discussed in two articles which follow: the first gives a broad outline of the problem in terms of current production and selling methods and suggests the need for impartial investigations into the manner in which people live and use existing designs; the second goes on to examine present day techniques of market research and proposes ways in which these could be extended.*

FROM THE INCEPTION of a design to its market there is a long chain of failures and achievements leading to decisions which give the final product its essence and its shape. The design is then handed over and put to use. In its development stages a design is affected by persons in the factory whose demands must be recognised and, if necessary, finally met by a series of compromises. A design will often have at all stages the guiding hand of its initiator, the designer, yet the others will exert their specialised influences; the manufacturer himself, the development and production engineers, the foremen of production, packing and warehousing, leading to the managers of sales, advertising and publicity. All of these individuals will know with a good deal of predetermined certainty what they expect the design to be and how it should behave for them. Yet, in very many cases they do not look upon it as something which is to become essentially part of someone else's life.

I am thinking only of mass production designs; radios, plates, furnishing fabrics, gas cookers, motor cars, and so on. In quantities of one, two, five and fifty thousand they are produced, each one identical with the next, each having been subject to the requirements of a mere handful of people at the factory and distributing stages. The consumer takes over when the design's every shape and movement have been agreed. In what way can the design satisfy the consumer's own particular but important demands? He has bought the

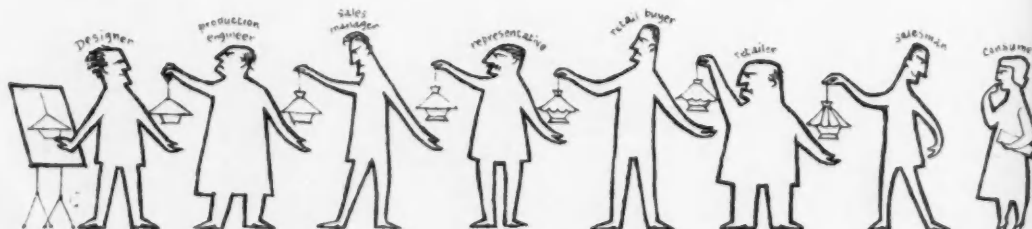
design for his home but to what extent has it been suited to his home?

The answers to these questions could be infinitely varied of course. Yet it is hoped that the spirit of this enquiry is at least clear enough for us to doubt the truth of an assertion very often made: "No design is complete until it is sold".

### Contact between maker and user

A brief digression may help us to focus on the essential problem. Under a different social order, such as that which prevailed in the eighteenth century, the majority of designs for domestic use were produced by individual craftsmen for single clients. Within the craftsman's understanding of the contemporary idiom or style, there was scope for meeting the consumer's wishes. During the inception and execution of the design the two parties, craftsman and client, made their contribution to ensure that the result suited them both.

Nowadays, of course, we have virtually lost all that. The workings of the Industrial Revolution (particularly its division of labour, divorce of design from execution and elimination of the individual customer) are familiar to us. I have already touched on the chain of duties to be performed in the factory for each design. As a poor substitute for the consumer's participation in the design and execution processes we have advertising, public relations and publicity, and, to a very minor extent, market research. In effect the



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consumer's only means of making critical comment on a design is not to buy it.

### The choice of goods available

The theory of market demand as indicated by sales results must be treated with reserve; it is in fact only valid when the price of the competitor's product is the same as the manufacturer's own. The attraction of selling goods largely by charging a little less than a competitor is likely to be one of the mainstays of commerce for many years, especially in declining markets; the effective way in which it obscures any expression of consumer demand must be recognised.

Having sketched very briefly the commercial background to selling design, one major deficiency seems to stand out. Put in the form of a question it appears to be this: "Does the individual consumer, when purchasing a new design, get what he wants?" It may be said that he would not buy it if he were not satisfied, but in many cases the consumer is not able to abstain; he must meet a real need as nearly as he can. So he goes home satisfied to a degree; having spent his money he must make his living habits - in fact his home - fit the new design as best he can.

I am of course thinking of *real* needs, not fashionable needs, which in industrial design for domestic use reflect a taste for the contemporary or period styles. People do buy according to one or other of the prevailing tastes. In nearly all groups of products they find they have to, or go without. And nothing in this article is intended to disregard this element of fashion, for plenty of historical evidence can be submitted to prove that a given age has its characteristic tastes or fashions. What I am suggesting is simply this: designers and manufacturers do not know with any reasonable accuracy what their public wants, because they do not know their public.

### Getting to know the consumer

Instead of working only on the basis of his own experience, and within the confines of a prevailing idiom, the designer should, I suggest, have at his command full reports of the way in which his public is *using* his last design or those of his competitors. What sort of people are his customers? How and why have they furnished their houses in certain ways? If answers were found to these questions the designer would have a real basis upon which to evolve his next product. Rightly it is often said that the designer must be a leader; that his work should create a demand. Yet it is seldom realised that the designer cannot be a jump ahead of his public if he does not know where his public stands today.

Nowadays, with industry's tendency to increase production running parallel with a diminishing number of different designs, is it feasible to argue the case for closer contact between designer and public? Although physical contact is naturally out of the question, a great deal could be done to learn more about people's needs and preferences.

How could this object be achieved? How could the

research be carried out? In what way could its results best give a lead to the designer? Certain aspects of this problem are examined in the second article beginning on page 20, but some tentative suggestions can be made here. To begin with, the central question to ask is "why do you furnish your home in this way?"; and not, with a sample product in each hand, "which design do you prefer?" We need to know why people behave as they do, before asking them how they are likely to respond if a certain design came their way, at a time when they needed it and had the money to pay for it. This information could be elicited by a survey, limited to certain areas of the country, and, perhaps, to particular income groups. The technique used by the market research organisations of taking a sample would be a necessary limitation, but it must be admitted that to get worthwhile results over sufficiently large areas, the scheme would be costly.

### Research scheme proposed

If we suppose that such a proposal were adopted, say by several universities working together, then what is the type of information needed? The designer would need to know how products made by this firm and its competitors are used. He could be helped by such questions as these: Do the majority or the minority of potential consumers attempt to organize their homes creatively, given the usual quantity of furnishings and equipment? Do they accept stock suites of bedroom or living room furniture as inviolable? Or, do they prefer a changed appearance in their homes every two or three years, and does this merely mean new wallpapers, paint and fabrics? Essential additions to this general picture could best be furnished by the anthropologist who could, with the aid of work study and anthropometry, compile data on living habits. As no one yet knows what a large sample of the population needs and prefers in its environment, the questionnaire for disinterested research of this type can only be tentatively sketched. But it is clear, even from this selection, how much the designer and his colleagues need to learn.

The danger of placing too much reliance on statistics should not, of course, be overlooked. The important role taken by accountants in modern business fastens what seems to be undue significance to figures. Armed with figures which indicate by percentages the public's opinion of certain ideas on design, the manufacturer can face his designer with what he believes to be an accurate statement of public taste. The designer must comply with the results of research. In doing so he may easily be persuaded to set aside his imagination which will become atrophied progressively as the initiative for new ideas passes from him to a market research organisation which, again working by percentages, will be able to present a convincing picture of the product that people would like to buy in the future.

For these reasons I stress the need for *disinterested* research carried out with the independence that universities or a large benevolent foundation are best able to furnish. The pattern of consumer preferences would

be built up progressively, year by year, recording not only the types of change, but also the pace of change. The manufacturer would then be able to direct the efforts of his design team towards a creative rethinking of the product in terms of an established social pattern; not towards the supply of a series of artistic overcoats for a ready made solution based on percentages.

We are faced with the strange truth that little or nothing is known of the way in which designs are used in people's homes. It seems therefore to be vitally important to recreate the relationship between the designer and his customer, so that it can compare favourably with that which existed in the days of the individual

craftsman. Only in this way can we avoid the devitalising situation caused by millions of homes necessarily stereotyped by those products which are given the most advertising and publicity.

There is scope for human individuality in a highly organized industrial economy, but unless designers appreciate the roots from which this individuality springs, there is little chance that it will survive. Given the results of regular surveys of the way people live and use their homes, I believe that designers would be surprised at the forward-looking elements in their public; elements which they in turn could use as the basis for new designs.

## ROSETTA DESBROW

### CAN MARKET RESEARCH DISCOVER CONSUMERS' REAL NEEDS?

*Can existing market research techniques provide designers and manufacturers with the type of information about people's real needs and preferences discussed in the preceding article?*

*How, in fact, is market research used today and what does it achieve? To answer these questions Rosetta Desbrow interviewed representatives of the market research organisations listed on the left.*

Attwood Statistics Ltd  
British Institute of Public  
Opinion  
British Market Research  
Bureau Ltd  
Market Development Co Ltd  
Mass-Observation Ltd  
Research Services Ltd  
Sales Research Services Ltd  
Market Investigations Ltd  
The Social Survey, COI

THE FIRST MANUFACTURER served consumers whose needs he thoroughly understood, and the first trader, the pedlar, must have studied his market intensively before loading his pack. Market research in a primitive form is as old as marketing itself. But, as the term is defined today by market research consultants, it is a new method for obtaining information about existing markets and potential markets. This information is based mainly on statistical techniques, particularly the making of surveys by interviewing selected samples of the public and recording facts about people and their views.

Many firms think they are doing market research if they ask their sales staff whether a particular article or design would sell. Some hope to obtain the kind of useful information they once received from the one man retailer, who was his own buyer and salesman and had day to day contact with his customers. Nowadays the customer is remote from the buyer and on the whole it is true that retailers will prefer to stock the type of goods they sold last year to those they might sell next. A sound design policy could hardly be based merely on sales figures. When a retailer has just got used to the idea that rust and green are not the best selling colours, what would he answer if asked whether tan or tangerine would sell well? To him, these colours would be the old fashioned rust, and not the beginning of a new trend.

"Let's ask a few people", is a simple form of market research widely adopted by manufacturers. Such hit or miss methods may be adequate for a small firm with a loyal market consisting of like-minded people, themselves articulate and well informed about the product and its use. When there is only a relatively small output and potential sale in question, such market research might suffice. The manufacturer in these cases, his staff and his designer, are probably sufficiently in tune

with the general way of living of their customers to keep abreast and even ahead, not only of their tastes, but of their needs.

#### Reaching high sales or real needs?

The function of market research, as defined in the introduction to the recently published 'Readings in Market Research'\*, "is to reduce the areas of uncertainty surrounding business decisions by improving the supply of market information available to the business man". Of course, much general statistical information (eg the 'Census of Distribution and Other Services' 1950) which throws light on markets is collected and published by the Government. But the term market research, since the war, is most generally used to denote sample surveys. Current expenditure on this kind of research is estimated to be over three million pounds a year - an expenditure which industry as a whole does not undertake lightly. As firms and markets get bigger, managements become remote from their ultimate customers; because their way of living is different, they cannot estimate by the old 'hunch' method how the market will react to their products, and they certainly cannot have their finger on the pulse of consumer needs.

Market research is used to discover facts about existing markets and to reveal where the potential market for goods is most likely to be. Based on its findings advertising can be planned for groups such as young or old housewives, teenage wage-earners or newly married couples, in order to increase sales. Unfortunately, from the consumer's point of view, increased sales may not be synonymous with the meeting of real needs. Market research may point the quickest way to the largest profits, but not necessarily

\*'Readings in Market Research', edited by Frederick Edwards, British Market Research Bureau, 35s; the first 'text-book' of market research to be published in this country.

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towards the perfect article from the consumers' point of view.

There is a sector of market research which deals with product developments by the survey method. Here, too, it is consumable goods which are largely the subject of surveys, but the occasional manufacturer will seek to discover something about the dimensions of, say, existing kitchen cupboards, before making final decisions about the size of an appliance which would normally be stored in the kitchen.

#### Guidance for product designers

Case histories showing the use of market research to assist industrial designers to meet consumers' real needs are almost impossible to find. Probably this use of market research is only just beginning. The Ford Motor Company, among car manufacturers, carries out organised research among motorists to test the existence of needs which the company might meet, and also to discover motorists' reactions to various features of models. Such research leads to modifications which add to the motorist's comfort or ease in driving. For example, a survey was made among car owners and potential car owners in 1951 to test the truth of the proposition that the British public wanted a utility car. Some of the statistical results showed that 85 per cent wanted a saloon body, and only 11.6 per cent were prepared to accept a body more austere than the old 'Anglia'. This persuaded Fords that a utility car was not wanted by the British public. The public's needs indicated by the survey were translated into the now familiar Ford 'Anglia' and 'Prefect', which have proved to be successful models.

Recently a manufacturer of cooking equipment decided to redesign his products. Noting a tendency for middle class families to eat in the kitchen (the working classes, of course, always did), he designed his saucepans with bright colours, because small bright patches of colour, he deduced, will be acceptable as colour notes in white kitchens. Moreover, he talked to home editors of magazines, who can speak as experts on housewifery.

The difficulty about experts of any kind is that they may have a highly idealised view of how the average

person should react in any given situation. The most careful design might be produced, answering all the needs that could be foreseen, and yet the product might be used in quite a different fashion. A case in point might be the chestnut, hardly ever heard now, of the bath being used as a coal store, although it is common to hear of sideboards used as dumps for miscellaneous equipment. It is often not enough to meet a need – the consumer must be shown that the need existed and can now be met.

#### See how people live

A study of the home and of the behaviour of the occupants would suggest to the designer many exciting possibilities for new designs. Furniture and equipment are now being designed without an idea of the size of rooms in which they are to be used or the kind of living done in them. For some cooking appliances the cook needs three hands. Is there so great a need for a washing machine to wash less than three pounds of clothes at a time that it would be worth developing one? Such a need might be revealed in a study of washing habits throughout the week. More studies of home chores and home living are needed if we are to have homes, furniture and equipment for full and comfortable lives.

Research into consumer habits and needs – as opposed to consumer market reactions – would provide invaluable data for designers. For example, where is the English equivalent of the Swedish study of measurements and types of beds ('Bäddmöbler', Svenska Slöjdföreningens Publikationsavdelning), which comes to the conclusion that a single bed should be 97 cm (three feet two inches) wide for comfort? Such research would bring to light gaps in the provision of goods. Research of this kind need not always be costly, and new techniques could be devised. But whether costly or not, consumer research would frequently be wasteful if undertaken by individual firms, and might best be done co-operatively. Its results could then be drawn upon and interpreted by individual manufacturers – *interpreted*, because although market research may reduce areas of uncertainty, it can never take the place of creative designers and commercial enterprise.

Consumers – can the designer get to know them?

Sam Lambert







**FUN and**



## in the CIRCUS

TO TOWN DWELLERS the circus probably means Olympia or Harringay, Bingley Hall in Birmingham, Liverpool stadium, Bellevue at Manchester, or Glasgow's Kelvin Hall. It conjures up a vision of high romance, low comedy, Rococo decoration and 'oompah' music.

Most of this is wrong, and all of it gives a false impression. The circus is essentially a highly mobile affair. For eight months of the year, the Bertram Mills show and at least a score of others travel with a tent throughout Great Britain, and many of the smaller circuses stay for no more than one day in each place. The performers come from all the corners of the earth, and will move on to other foreign parts when the season closes. This means that not only must the tent, lighting, seating and wagons used in summer be mobile and easy to build up and pull down, but the 'props', apparatus and costumes of all the acts which make up any programme, must also be highly transportable. Even a theatrical touring company does not cover as much ground as a troupe of circus performers.

### Actuality in the ring

But there is a more fundamental difference between the theatre and the circus. The theatre relies on illusion, while the circus depends on actuality. The juggler, the acrobat, the rider and the strong man all demonstrate

ANTONY HIPPISELEY COXE

*The circus is with us once again; and if you can detach yourself from the thrills and the laughter, the colour, movement, noise, smell and wonder of it all, you will find it a good place to study a highly specialised field of design.*

various aspects of physical skill. In the circus ring this takes place in the midst of the spectators, so there are eyes all round to see that nothing is faked.

A triple somersault means no more and no less than turning round three times in mid air, about a horizontal axis. Among trapeze artistes only eight have ever succeeded in accomplishing this. In such an exacting business each wire and strut in a piece of apparatus must have its stress and strain carefully calculated. If the design is at fault, it can bring death to the performer.

Everything in the circus, every piece of apparatus, every prop, every costume, should be designed to enhance the spectacle of actuality. But let us start with the arena itself. A circus ring is usually 13 metres in diameter, whether it is London or Leningrad, Baltimore or Bangkok. It is this which makes the circus at home anywhere. From the ring, tiers of seats should rise steeply, all round; for if the sense of actuality is to be maintained the spectacle must be held in the midst of the spectators. So what is needed is a bank of faces opposite to lead the eye down to the ring by a series of concentric circles, which, as the word suggests, helps concentration. In a shallow, saucer shaped arena the eye tends to wander away from the ring, up over a receding vista of faces to a low horizon. The top row of seats, however, must always be well below the rigging

of an aerial act, for the thrill comes from looking up at it; and, as Toulouse-Lautrec well knew, much of the beauty is derived from the foreshortening of the human body unexpectedly seen from below.

### Man and the flying trapeze

It is the apparatus of the flying trapeze which gives us one of the most satisfying pieces of design. It is an appliance designed to demonstrate the agility, muscular control and split second timing of those who work upon it. It is difficult to imagine a badly designed trapeze; and yet, as so often happens in design, one small thing can spoil the whole effect. A German flying act recently appeared with apparatus in which the bar of one of the trapezes was held by rigid metal tubes instead of thin wire. As it swung to and fro, with the regularity of a metronome, one missed the feeling of flexibility, the little sideways twists, and the delicacy of a trapeze airily suspended on wire. In this heavy, mechanical swing, the performer seemed to be completely dominated by the apparatus, instead of keeping it under light control. And at the end of the act, when he had dropped into the net and made his exit, instead of swinging loosely and twisting in mid air, like something suddenly set free, the bar maintained the same remorseless movement, as correct and as inhuman as a Prussian drill sergeant.

Costumes, too, must be designed to show off an act. For a trapeze artiste one cannot do better than base the design on the tights and 'leotards' of Victorian days. (Leotards, called after the man who invented the flying trapeze in the middle of the last century, are those close fitting singlets worn by acrobats). The modern version has no sleeves, and this draws attention to the arms which are all important in a trapeze act, while wrist bandages not only help the performer but accentuate the actual hold used in catching. In such a costume the shape of the body is revealed; the outline is sharp, unmarred by fluttering draperies, so that muscular control and sense of timing can best be appreciated.

For wirewalkers it is now the fashion to wear Mexican trousers. Yet nothing could be less suitable; for what we want to see is the footwork, the very thing which bell-bottomed trousers hide. This fashion can be



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1 'Big top', dressing tent, stables, and all they contain must be erected and transported with ease. The equipment seen here includes a specially designed mobile lever (right) for pulling up the tent stakes.

2 Speed and simplicity are important in the build-up of a tented circus. Sections of canvas are laced together by a series of loops threaded through holes, and hoisted up the king poles in one piece.

*Picture Post Library*

3 Concentric circles of seats, sloping steeply to the ring, force the audience to concentrate on the spectacle - in this case the Rogge Sisters, whose well designed 'props' have no superfluous decoration to distract the eye from the skill of their act. *Picture Post Library*

## Fun and function in the circus



4 Costumes should enhance physical attributes. Even in Victorian days the V-line was used to accentuate the broad shoulders of an acrobat, while cuffs here draw attention to the Pospischils' hands.

traced back to Con Colleano, the greatest wire walker of them all; but what his imitators have failed to appreciate is that although Colleano made his entrance in trousers, after the first few steps he ripped them off to appear in the knee breeches of a bull fighter, which he was wearing underneath.

To my way of thinking, animals should not, as a rule, be dressed up. Just as we go to the circus to appreciate man's agility, dexterity and strength, so we should look for similar attributes in the animals: the lithe grace of the tiger, the surprising delicacy of the elephant, the astonishing natural balancing powers of the sea lion. Chimpanzees, however, look so nearly human that to dress them up seems only proper.

Trappings cannot be considered as clothes, and the harness of a liberty horse has a definite purpose. The side reins are *not* merely to make him arch his neck and look pretty; they keep him under control, for you must remember that there is no one on his back to hold the reins.

Props for both animals and humans give one immense scope for design, whether these are as solid as a pedestal for a lion, as lightly balanced as a juggler's club, or as complicated as some of the machinery which the Russians seem to be inventing for their aerial acts. Sometimes decoration can contribute to the design. The metallic paper, spangles or *diamanté* patterns on a juggler's club catch the light as it turns and twists so that it literally flashes through the air.

There are still a few craftsmen who will make you a springboard, a trampoline or a trapeze. Charlie Kinch in

Walcot Square is one. Bontemps of Ghent specializes in horses' harness for Continental circuses, just as Strohmayer of Constance supplies many of Europe's 'big tops'. And although Penrose and the Gourock Ropework Company make most of the tents in this country, we still send to Vicaire in Paris for spangled costumes. Even so, many pieces of apparatus, props and costumes are made at home by the performers themselves.

### Purity with a Baroque façade

Where then, you may ask, does the ornate decoration, exemplified by the elaborately carved band wagon, with its sunburst wheels and allegorical panels, come in? Like the flamboyant prose of the programme, the lush typography of the posters, and the blaring music which seems all brass and percussion, the gilded carving on the wagons seen in the parade is just another piece of the Baroque frame which surrounds the circus, but is no integral part of it. You will find it in publicity material but never in the ring. And by strong contrast it helps to accentuate the simplicity and purity of the circus itself. As Pierre Bost, the French critic, wrote: "In an age when women wear jewellery made of glass and wood, when houses are constructed of strawboard, and when silly little couplets are sung by the whole world for six months and then forgotten in a day, it is pleasant to remember that the circus remains the one domain where one cannot build without wisdom, and where diamonds can never be supplanted by paste".



6 Con Colleano, the greatest wire walker of our time, wears a bullfighter's costume which enables the audience to appreciate his meticulous footwork.

5 Every wire and every strut must be designed to bear a precise stress or strain, for on it the life of the performer may depend, as those who saw the circus film 'Trapeze' will realize.





# DOMESTIC BOILERS

## *A survey of the industry's response to current needs*

J. BERESFORD-EVANS

THERE IS A VERY WIDE VARIETY of domestic boilers on the market, which ranges in output from the largest which supply the needs of central heating with unlimited domestic hot water, to the smallest which may have only intermittent use on wash day and bath night. There is hardly another piece of domestic equipment which is used over such a range of needs, and the demands on any model may vary suddenly so that flexibility of output is most important. When we add to this picture the recent urge for more efficiency and smoke control, the conversion of kitchens to living spaces so that the boiler may have to come to terms with furnishing, and the patchwork of individual family needs, the design of boilers becomes a complex social adventure.

### **Conditions to reach efficiency**

For the most efficient use of the fuel it is necessary:

- 1 To feed it to the fire at a steady rate, rather than let it burn through and be replaced by a load of cold material. With solid fuel this usually means providing a hopper or some reserve of fuel outside the combustion area.
- 2 To obtain complete combustion, so that the gases, volatilized at the first stage of burning, can be allowed to burn completely without smoke production. This requires secondary air to be mixed with the hot gases, so that they can burn before entering the flue.
- 3 To have waterways in close contact with the hot gases.
- 4 To secure a good circulation of water through the ways, so that the exchange of heat from fire to water is everywhere at the optimum rate.
- 5 To control the primary air so that the fire can burn according to the user's needs and respond quickly to changes in requirements. A thermostat sensitive to the water temperature and controlling the primary air is the most direct method, although flue thermostats have been used.

Very few of these features are to be found in the cheaper boilers, and nearly all of them in the more expensive. No argument can be persuasive where capital expenditure is the sole criterion; but we have many examples in other goods, such as motor cars, where refinements in modified or simple form have been handed on to the smallest and cheapest models. Either national economy in fuel, or an awareness on the part of the general public of the terrible cost of firing an inefficient boiler, may well stimulate better design in a way that builders and local authorities have failed to do.

Having got our efficient boiler, whatever the size, the effect it produces – its usefulness to the housewife – will depend upon the way it is planned into the house. A few makers take this matter so seriously that they virtually insist, as a condition of sale, upon approving the manner of installation. The useful performance of a boiler cannot be separated from the transmission, that is the plumbing. Such obvious requirements as short and well insulated connections between boiler and storage tank or radiator will affect a very considerable proportion of the load. For instance, the cost of heating an uninsulated flow and return, equal in length to an ordinary towel airer, may well be £10 per year.

In its simplest terms, therefore, this part of the design problem amounts to making sure that the right type of boiler is selected for a house, and that it is integrated with that house for its own efficiency and the convenience of the household, not merely dumped in a vacant space as if it were a dustbin or a hat stand. I deliberately call this a design problem because the maker's job is only partly done when his goods are delivered to the showroom. Design only tentatively justifies itself there or in the laboratory. Its real value is in its usefulness as installed equipment, and a first step has been made, by the Coal Utilization Council, to get some realistic figures on the rating of small boilers.

### **Convenience and cost of fuel**

Until now the things we have considered have been the fundamentals, the text book beginnings, that *ought* to be assumed and incorporated automatically, during the progress of any design. These are the factors which the user might hope to receive without giving them a thought or knowing that they exist. That this has not been so in recent history has focused the user's interest on the fundamentals at the expense of a more appropriate interest in the convenience of operating the boiler.

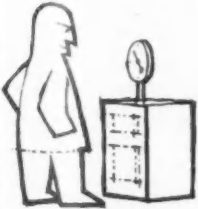
In this respect electric boilers have everything to commend them except the cost of running, but as they are generally contained in the water storage cylinder, so that the visible part is a relatively simple matter of dial design, they are not included in this survey.

Gas or oil fired boilers have the advantages of fuel on tap, with no problem of ash removal, but one pays for this convenience in cost of fuel or burners and storage tanks. Solid fuel is generally much cheaper, and the dirtier and less convenient the grade the lower the price, so cheap fuel is paid for in terms of labour, dirt, and often in doubtful performance. Whereas cleaners, cookers and other household goods often



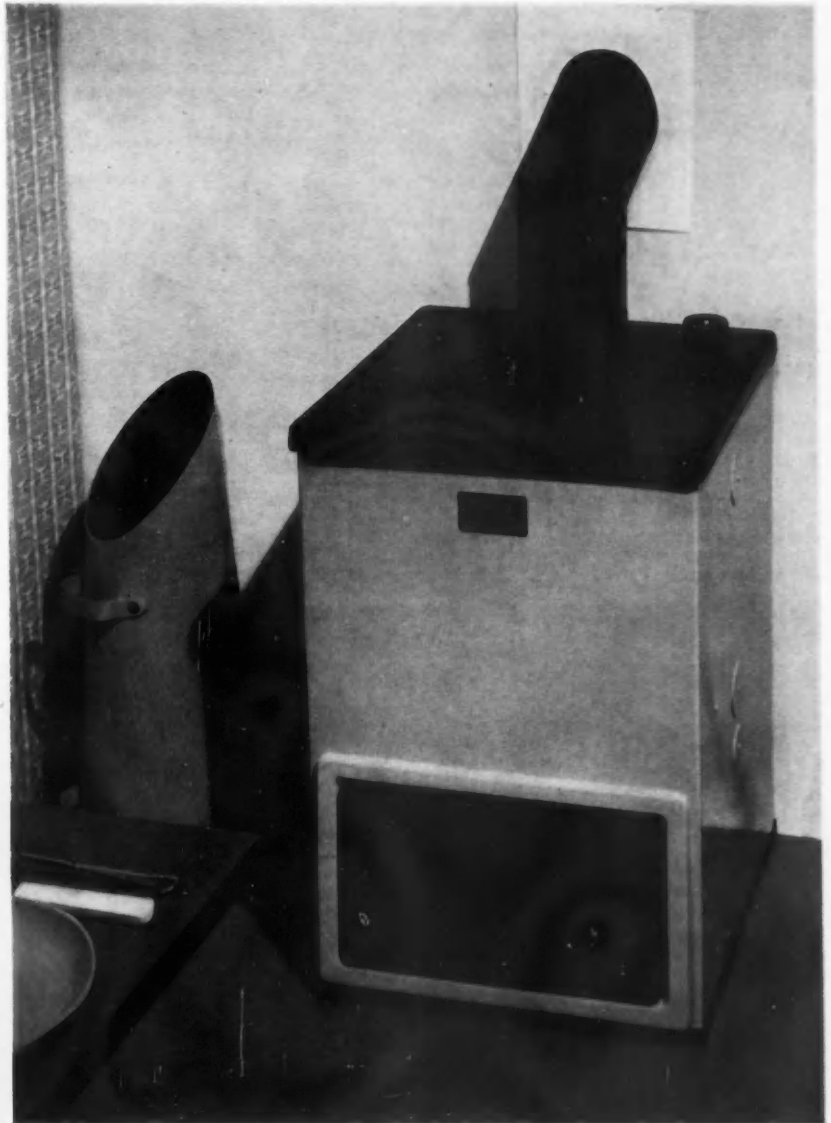
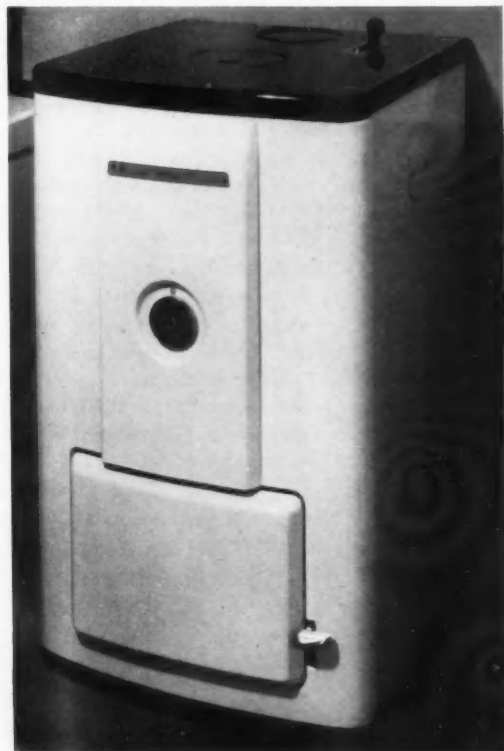
*From the bewildering variety of models a few have been chosen to illustrate main tendencies. The new Coal Utilisation Council ratings have been given where possible. All retail prices quoted are approximate, and include purchase tax, where applicable.*

## THERMOSTATIC BOILERS



Once the rate of burning is controlled by a thermostat, a boiler is much less sensitive to periods of refuelling. It can make the most of a dying fire or a new load of cold fuel, and will not be overstimulated to clinker. In price and thermal efficiency it takes the middle way, and recent development work has been most active in this type of boiler. The traditional form of the boiler need not be changed by the addition of thermostatic air control but refinements in design, for convenience and especially for appearance, may vary widely between makes.

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1 The 'Rutland' is an especially successful compromise, having the cast iron interior projecting through a sheet metal casing to reveal the ash pit door and surround. Combined with good colour, this seems to be a most intelligent use of well established forms. MAKER Yates Haywood & Co Ltd. £27 2s 6d. 18,000 BThU.

2 The 'Agamatic 30/80' seems to have lost the sureness of touch to be found in the 'Aga' cookers. In detail it is unpretentious, but the long and prominent panel bearing the thermostat has no relationship with the hob, the door, or the shape in general. MAKER Aga Heat Ltd. £42 10s.

## Domestic boilers

attract considerable affection to themselves, boilers, especially solid fuel ones, have been cursed necessities which too often seemed to have been designed for the convenience of the foundry, with a production worth measured in so many pounds of cast iron rather than human amenity. How recent (or even current) are the boorish habits of the small domestic types may be gathered from one manufacturer's brochure which says, of his boilers, that "they will *not* make you go down on your knees before them every morning. They will *not* smother your kitchen in dust and ashes, scrape the skin off your knuckles, and set your teeth on edge. They will *not* fetch you out of bed in the middle of the night because the whole house is trembling with boiling water in the cylinder, and then insult you with a tepid bath next morning".

That it should be possible to make such remarks without appearing ludicrous is an indication, an indictment, of a recent or present toleration of such things. Most of the difficulties stem from erratic rates of burning which have been caused by intermittent

stoking. One method is to arrange for small quantities of fuel to be completely burnt in a short time, so that fuel can be trickled in. Alternatively, a slow and steady rate of feed may be used to maintain a large quantity of fuel in the furnace area, which is burnt quite slowly. Success depends upon flexibility to meet changes in the demands for heat. Mechanical feeds are frequently used in industrial boilers because of the efficiency of fuelling according to demand, and we may hope to see a much wider use of similar techniques in domestic sizes as the price of solid fuel rises, quality falls, and the work of tending is less accepted as inevitable.

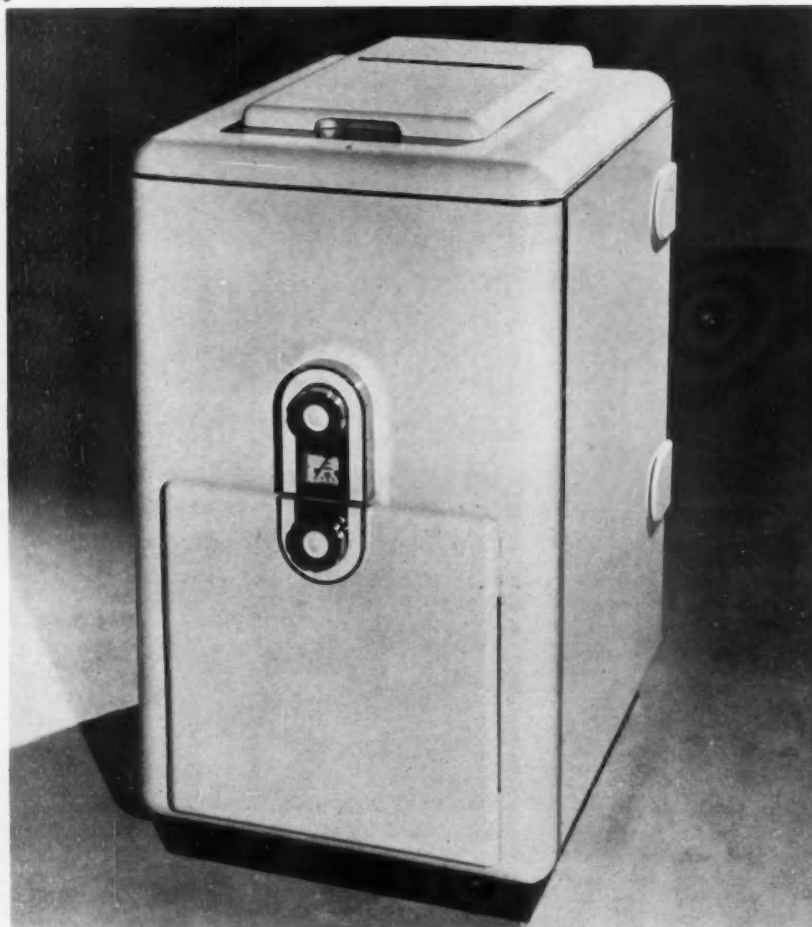
### A place for the boiler

Once stoking and cleaning are reduced to reasonable operations the boiler can be freed from the kitchen where its place is mainly historic. When the old kitchen range was reduced to economic size as a specialized cooking appliance, the water heating function began to be separated in an independent boiler. It is helpful to a manufacturer if he can claim that an appliance will do several jobs, but generally the wider the spread of applications the less the efficiency for each one of them. On the other hand the simplicity and economy in space of a single heat source have advantages which offset pure appliance efficiency. Thus we find a back-boiler in a domestic open fire as a common source of water heating, with the blessing of government and local authorities, despite its inflexibility and poor performance when compared with an independent boiler.

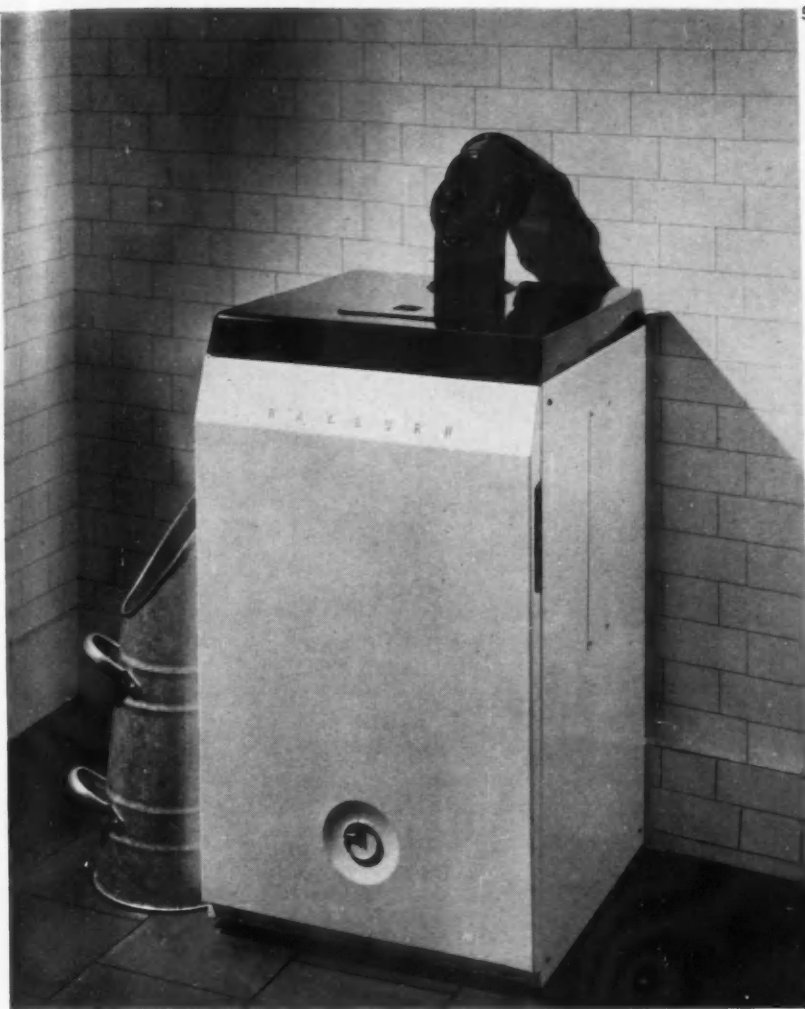
Should we ever find a solution by placing the boiler in the hall or even the parlour? If it is meant to give a measure of house warming as 'free-of-charge' background heating, then the choice of site is decided by the plan of rooms, the run of flues and the plumbing system. Next in importance is that the operation of the boiler should be quite free of dust and dirt; and lastly that the appearance should be suitable for such a site.

Probably, if one factor is to be singled out as the most difficult in developing the domestic boiler along logical lines for the user's convenience, it is to be found in installation. Selection of equipment and planning of the installation may have to be based on generalized traditions, and it is hardly surprising if neither builder nor merchant is able to collate the necessary data, for much of it is hard to find and obscure in definition. Individual manufacturers and the industry as a whole could do much to improve performance and good design, to further the status of this Cinderella appliance, by telling us clearly what is being offered and how it should be applied.

Always, we must remember that a boiler is not so much a piece of apparatus as a portmanteau term for a housewife drawing hot water at a tap, fuelling at so much cost, and cleaning at so much labour.



3 The 'Auto-Hydrèsse', by abandoning the cast iron hob and using an overall sheet metal exterior, with thin chromium trims and doors on piano hinges, has moved as far as possible from the conventional appearance of a boiler. The thermometer and thermostat control assembly is interesting, but perhaps over-contrived in the way that it runs over on to the door. MAKER Smith & Wellstood Ltd. £75 12s 6d. 50,000 BThU.



4, 5 The 'Rayburn', 4, and the 'Radiation Nautilus', 5, both place all controls behind a door so that there is comparative freedom of technical design within. The forms are well defined, even the door thicknesses being derived from chamfers. This is especially effective in the 'Rayburn', where the hand hold is well placed and unobtrusive, and the trade name forms an integral part of the design.

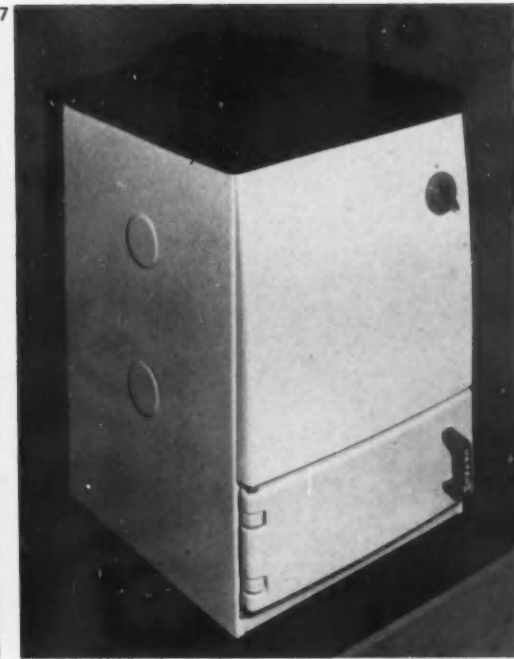
MAKER ('Rayburn') Allied Ironfounders Ltd. DESIGNER Carl Otto. £35 10s 4d.

MAKER ('Nautilus') Radiation Group Sales Ltd. DESIGNER Radiation Design Unit. £39 6s. 9d. 30,000 BThU.

6 The 'Ideal Autocrat 2A' uses the simplest means, but much of this advantage is offset by a parsimonious name plate. MAKER Ideal Boilers & Radiators Ltd. £34 17s. 40,000 BThU.

7 The 'Crane 20' gives the ash pit door a very slight curvature, and lets the front come forward in a slow curve to meet the thickness of the door. In spite of the ponderous door it is an interesting variation on the conventional boiler form. MAKER Crane Ltd. £25. 20,000 BThU.

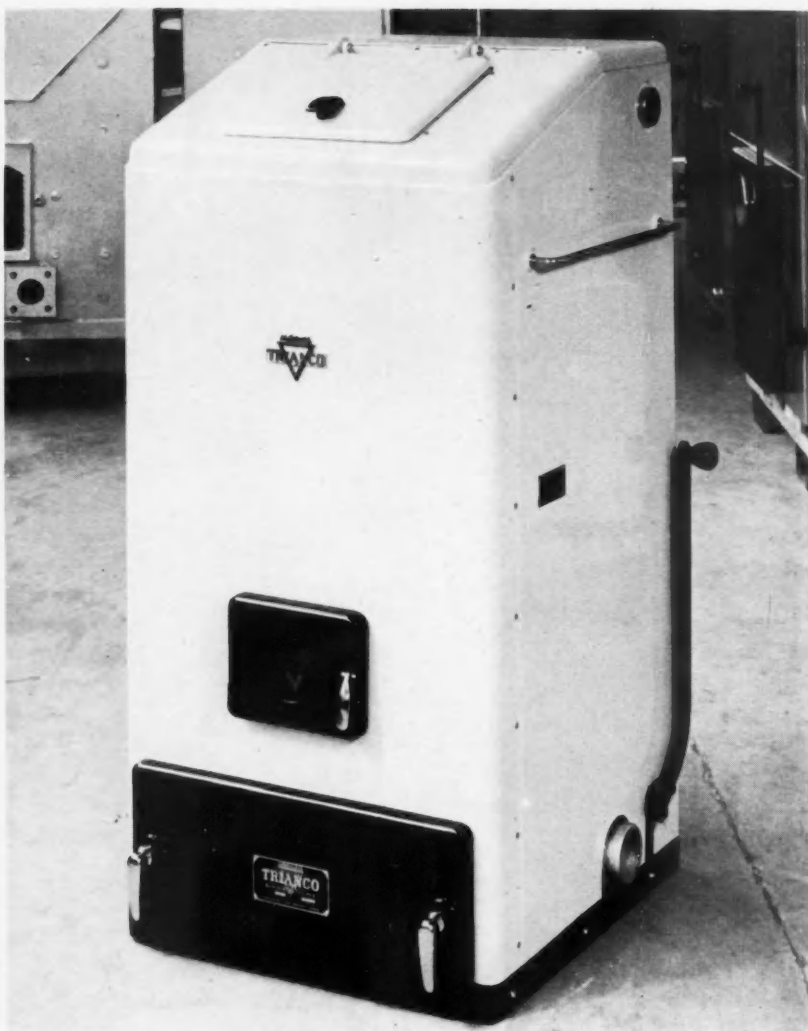
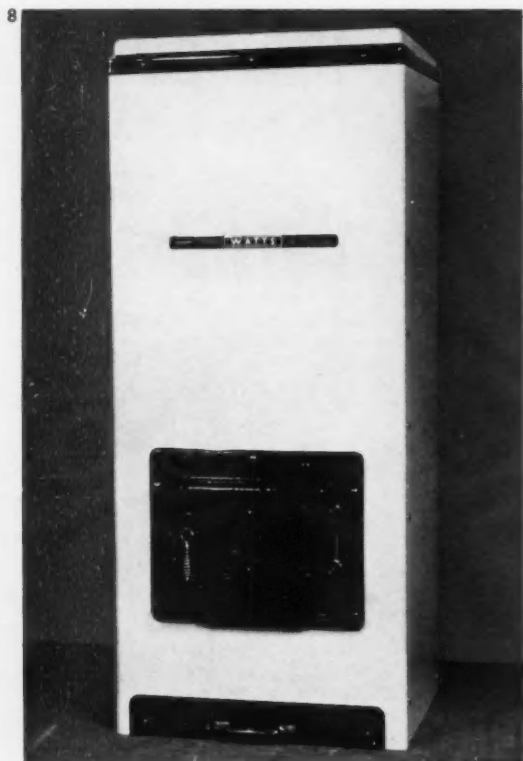
## THERMOSTATIC BOILERS *continued*



## Domestic boilers

8 In the 'Watts' the door and handles tend to detract from a most appropriate and well proportioned general shape. MAKER *Watts Automatic Boilers*. £120.

9 'Trianco' relies upon a large area of immaculate enamel that is very effective, but it shows up careless shaping of the large side handle. It should be unnecessary – and it is certainly undignified – to repeat the name and trade mark three times on the front. MAKER *Trianco Ltd*. £264.



## HOPPER FEED BOILERS

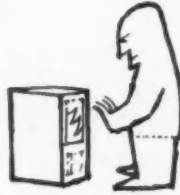
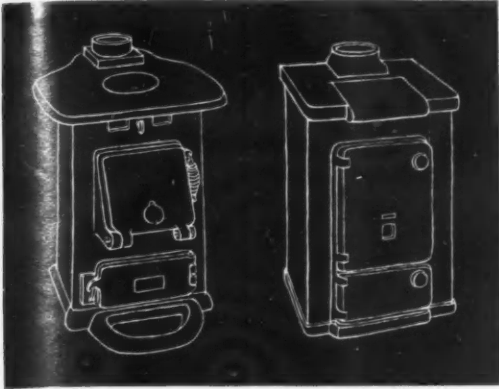


A boiler that is rated above 40,000 BThU may have to meet very heavy demands at times, so that some reserve of fuel is necessary in addition to that which lies in the grate. A hopper makes it possible to deliver fuel at a constant rate, independent of the refuelling periods, so that small amounts are burnt fast, deliberately to clinker. The three hopper feed boilers shown here all use a sheet metal skin as insulation over the waterways. The simpler the shape the more the attention will be directed to any feature such as the ash door or nameplate, which will therefore need more careful detailing and finish than the broad masses.

10 The relatively complex but unusual and honest looking shape of the 'Janitor' is derived from technical design. The difficult problem of the forward inclination is to avoid looking overbalanced, but the occasional rectangular surfaces hold it in check, and the projecting doors are so placed and shaped that they seem perfectly logical. The hopper door is especially well contrived, with its almost decorative protecting piece of bright metal. MAKER *Janitor Boilers Ltd*. DESIGNER *G. A. Ridgley*. £98. 50,000 BThU.



## OPEN FIRE BOILERS



Provision of minimum water heating at the very lowest cost still keeps a fair demand for boilers that look as ungracious as they are inconvenient. When a small fuel capacity is complicated by the demand for an openable fire, and the price margin forbids any refinements, it is hard to get a moderate performance efficiency. Boilers like the sketch B, have used the small margins allowed to improve the appearance of this technical minimum. They are not to be judged by the standards of boilers at twice the price, but rather by their advance on boilers like the sketch A.

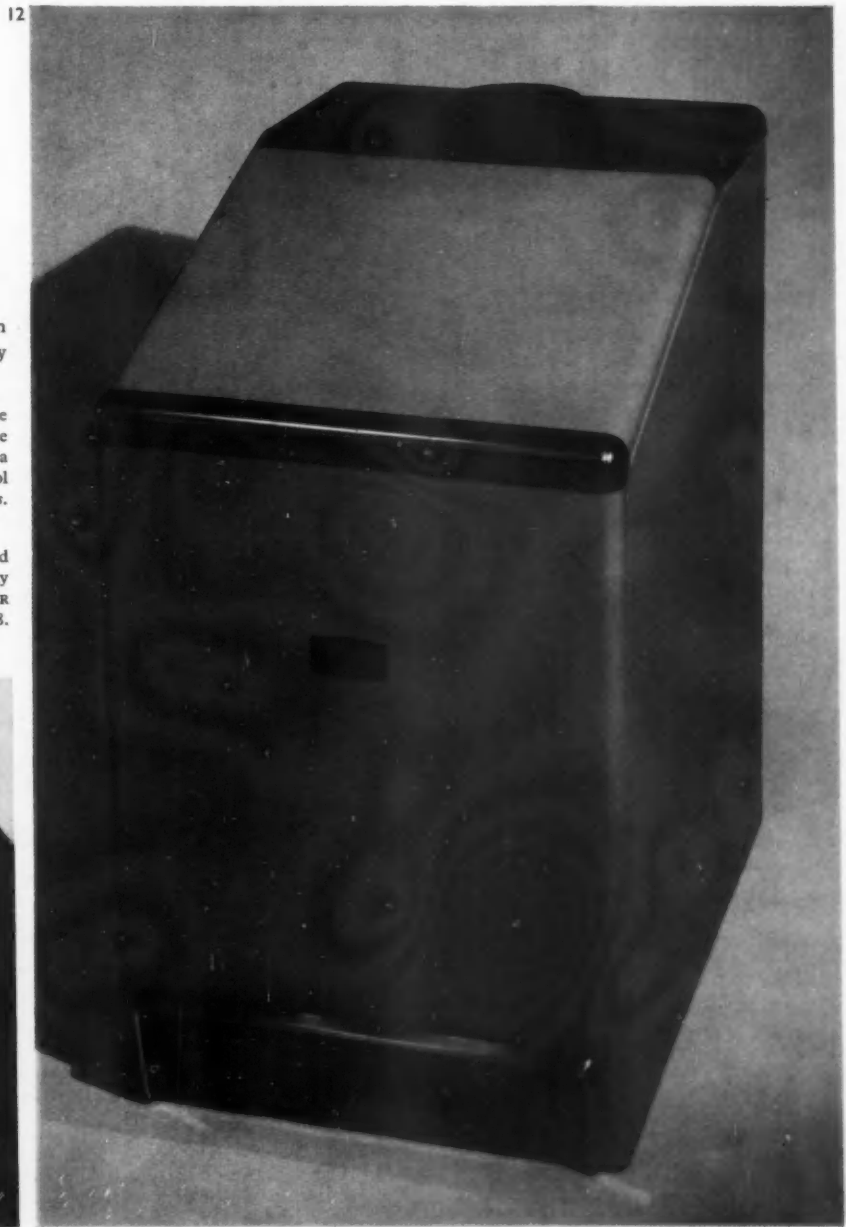
## OIL FIRED BOILERS



Most oil fired boilers are still at the evolutionary stage, in that the burner remains as a separate unit, or only partially integrated with the heat exchange equipment.

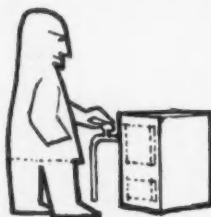
11 The shape of the 'Glow-Worm Conquest' is reminiscent of the solid fuel boiler; it incorporates the burner neatly but leaves the control mechanism to stand alone. This is a step nearer to a unified product, but has the disadvantage of making the control look like an afterthought. MAKER *Glow-Worm Boilers Ltd.* £69 10s. 35,000 BThU.

12 The 'Potterton 70' accepts the diversity of mechanical and electrical units, and puts them all in an ample casing with hardly any loss of floor space. The air intake is carefully detailed. MAKER *Thomas De La Rue & Co Ltd.* DESIGNER *Eric Marshall.* £188. 70,000 BThU.



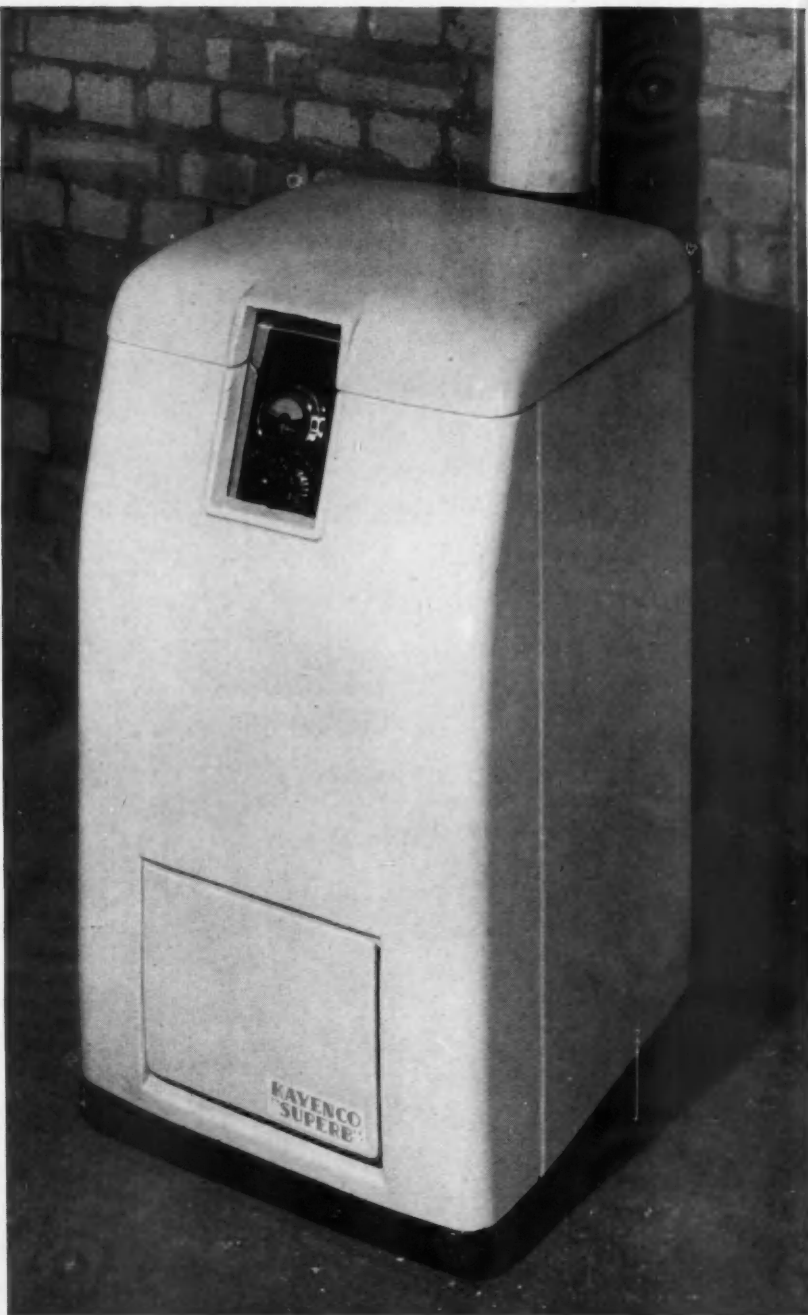
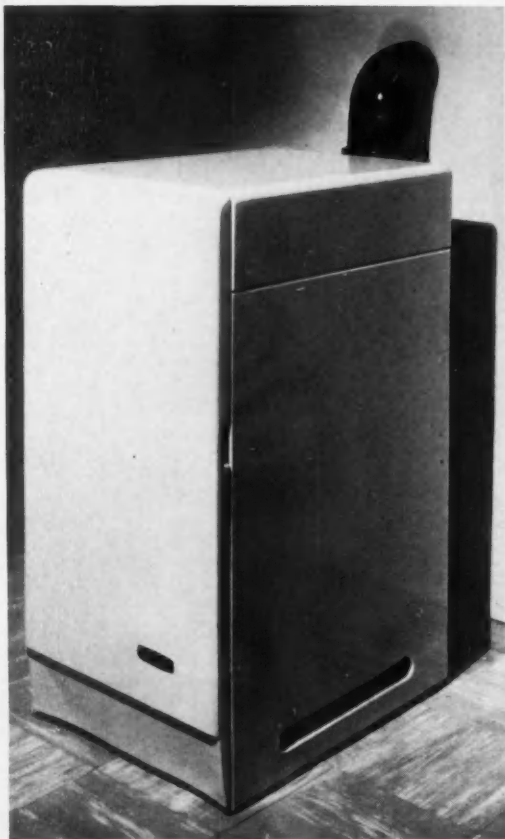


## GAS BOILERS



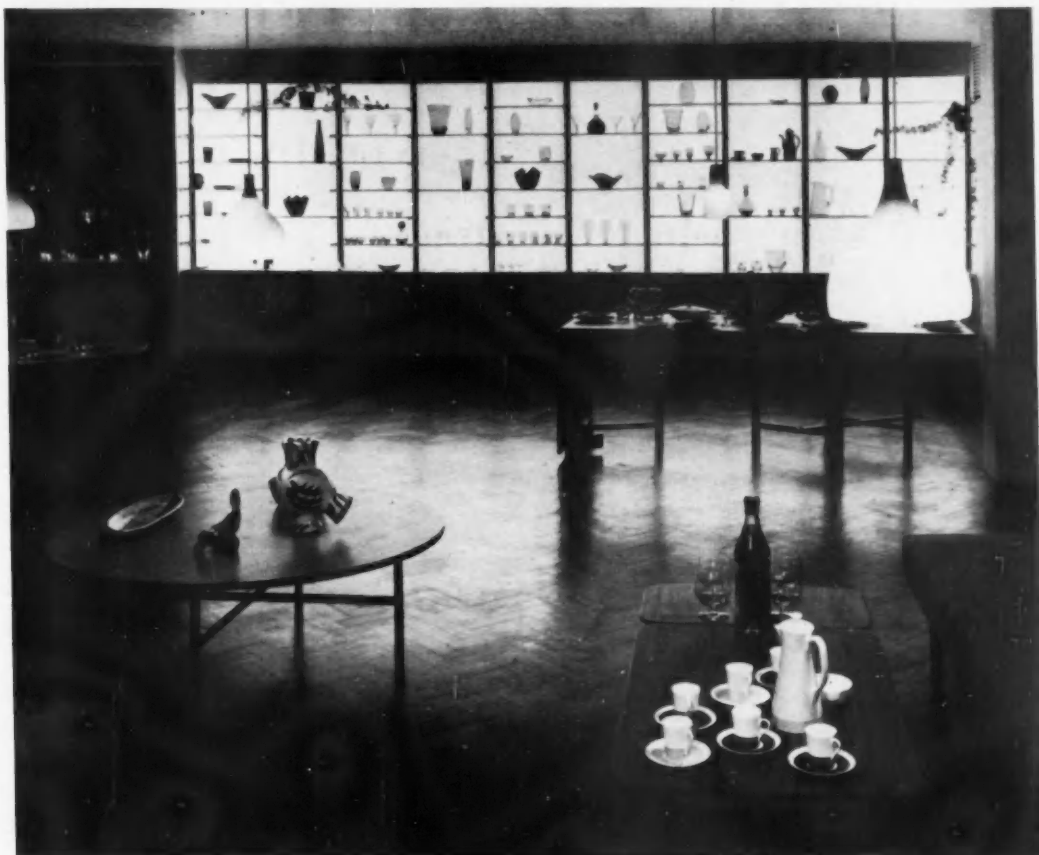
All boilers are heat exchange mechanisms, but this is most evident in the newer gas fired models where waterways are compact and the technical design has moved well away from solid fuel prototypes of the past. In both these examples the visually complex mechanism has been covered with a sheet metal casing, the front and top of which can be opened to give full access.

14



13 The 'Kayenco Superb' preserves many familiar features of the traditional boiler, and concentrates attention on the control panel. This is in the best instrument manner, with a clearly visible check meter, and is very well finished; but the bare expanse of panel above the dial seems unaccountable. MAKER *Frederick Kay (Engineering) Ltd.* DESIGNERS *F. Kay and Ronald Homes*. £95 2s 7d. 70,000 BThU.

14 The 'Potterton Diplomat 44' is deliberately impersonal and modest. Except for the flue pipe there is little to remind one that it is a boiler, and this is a reasonable basis for design in a piece of equipment that should require no attention except superficial cleaning. As it would be free standing there is no attempt to force it into kitchen unit standard dimensions. MAKER *Thomas De La Rue & Co Ltd.* DESIGNER *Eric Marshall*. £70 12s 10d. 44,000 BThU.



## New setting for tableware

FOLLOWING THE SUCCESS of the 'Modern Interiors' department which was launched at Woolland's, Knightsbridge, two and a half years ago, the management of the store decided to open a similar 'China and Glass' showroom where the best of modern international designs in tableware could be seen to their full advantage. The original china department on the lower ground floor has recently been redesigned for this purpose by Michael Brashier, the firm's architect.

The showroom is now very different from the china and glass sections that can be seen in most department stores – the stress here is on the quality rather than the quantity of the goods displayed. The fittings are unobtrusive so that attention is concentrated on the designs; there are no counters, and the general impression is one of light and space. The illustration shows the special display shelves for china and glass which occupy one of the walls – these are lit from behind so that pieces are silhouetted against the clear background.

China and glass are also shown on the individual table settings, and there are bays displaying English cut glass, a wide range of Scandinavian ovenware, and stainless steel hollow-ware – mainly from Britain and Sweden.

The choice of British china could perhaps have been more imaginative, and as a result, many of the British designs seen here do not compare so favourably with the Scandinavian, Dutch and Finnish ware which predominates. In glassware, on the other hand, few designs from British factories can compete with the quality and subtlety of form of glass from Scandinavia, Holland and Italy, and this was apparent in the display.

Woolland's believes that it is the retailer's responsibility to create a demand for the highest standards of design and quality, and that the policy of stocking 'safe' designs to guarantee a quick turnover is unpopular with many manufacturers and can only lead to stagnation.

G.E.N.



## Blends and contrasts

*Two stimulating ranges of new carpets and fabrics*

*Each customer in a soft furnishing store has to face a problem with colours. When a fresh start is to be made with new carpets, upholstery and curtains the difficulty of deciding which colours go together can be staggering. Some throw up their hands in despair, some will put implicit trust in the various salesmen encountered in each department, a few will afford the services of an interior designer. No manufacturer has yet had the courage to 'package' complete colour schemes – although the day for this may not be distant – but at least two, S. J. Stockwell & Co (Carpets) Ltd and Tibor Ltd, have co-operated to make the task of choosing soft furnishings less of an ordeal. Their new ranges of related carpets and fabrics are shown on the following pages.*



### **Stockwell Carpets**

Examples shown are all-woollen pile in body carpet. Figured carpets in the 'Equerry' Wilton range shown here are designed by Tibor Reich. Retail piece price including purchase tax is from £3 4s 3d per linear yard. Plain carpets are in the 'Crusader' Wilton range of 22 shades. Retail piece price including purchase tax is from £2 16s per linear yard.

### **Tibor Fabrics**

Examples shown are designed by Tibor Reich, unless otherwise stated.  
Retail prices per yard are approximate.

**Carpet:** 'Crusader', kingfisher.

**Fabrics:** 'Madison Square', red, grey, natural cotton and 'Lurex'.  
£1 6s 3d.

'Stratford', grey and white upholstery. £2 0s 8d.

**Chair:** Designer Peter Hayward.  
Maker W. G. Evans & Sons Ltd.  
£11 9s.

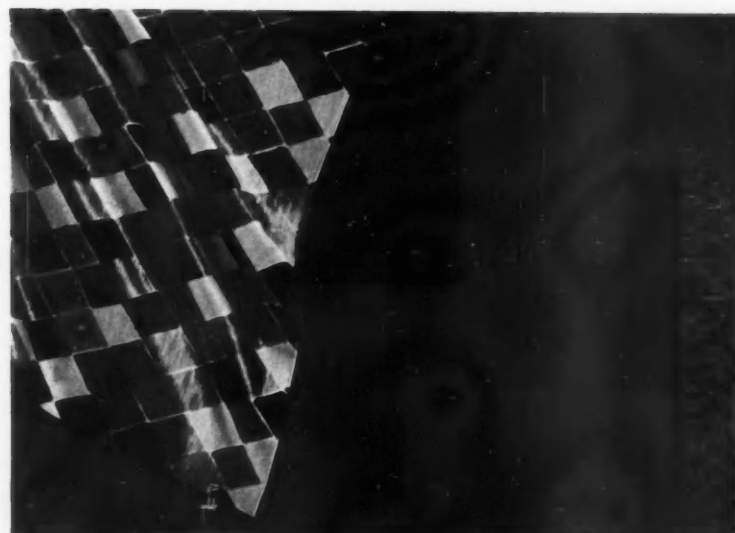


**Carpet:** 'Padua', black and kingfisher blue; also in charcoal and greengage.

**Fabrics:** 'Texturnet', black and kingfisher blue. 9s 9d  
'Rimini 4', orange upholstery.  
£3 7s 5d.

**Carpet:** 'Cortina', black and tropic turquoise.

**Fabrics:** 'Sunburst', gold, white and black, satin faced cotton slub.  
DESIGNER *Julius Frank*. £1 3s 3d.  
'Scampi', red upholstery, wool faced backed with 'Lurex', cotton and rayon. £2 19s 7d.



**Carpet:** 'Crusader', flame.

**Fabrics:** 'Gondola', pink, cotton slub. £1 3s 3d.

'Wellington', grey upholstery.

£2 3s 7d.

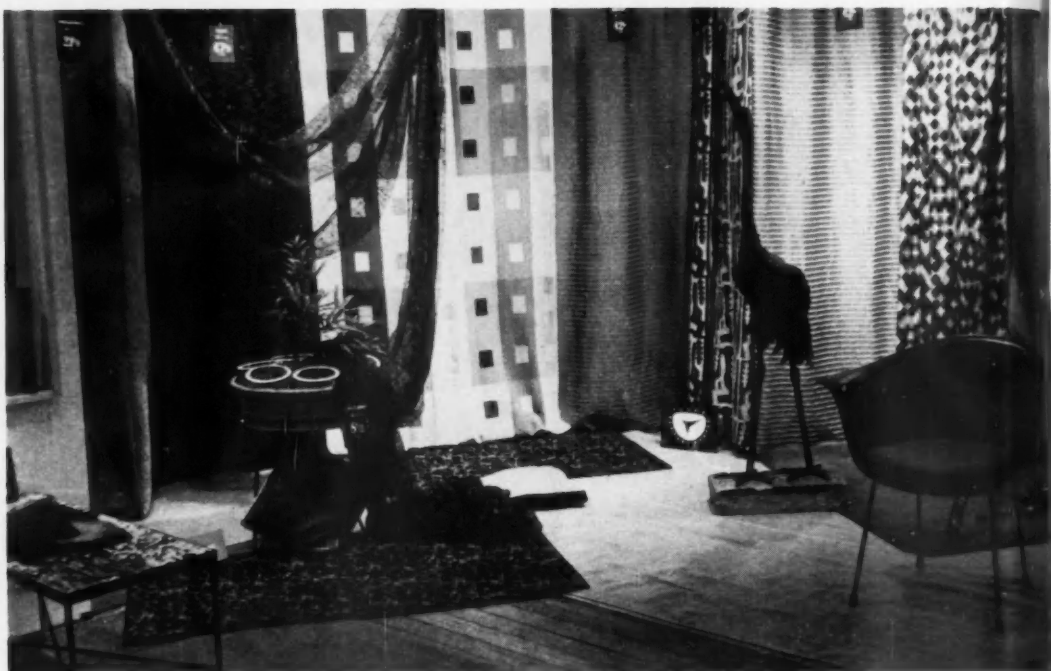
'Malfi', persimmon upholstery.  
£2 12s 2d.





## Blends and contrasts

*A view of the joint Tibor-Stockwell travelling display of fabrics and carpets. It began touring in London and the Provinces last year and, with changing contents, has been seen in many retail stores.*



*"CARPETS MADAM? On the next floor if you please. No we have no carpets here, only furnishing fabrics".*

This feature on the related colours of carpets and fabrics should begin with the retail store. Indeed, everything that S. J. Stockwell & Co (Carpets) Ltd, and Tibor Ltd (fabrics), can do to relate their colour ranges, may be undone by the recalcitrant retailer who refuses to bring them together on to one sales floor. But the story is familiar and its moral – despite counter arguments about difficult administration and stock buying – has surely been appreciated by every retailer in the country. After all, the advantages are plain when fabrics and carpets – in fact all decorative domestic goods – are displayed together: the customer can more readily imagine different elements in a furnishing scheme and the retailer stands the chance of making two sales in one.

Here, then, is the commonsense, commercial reason why two manufacturers of different products should co-operate with each other in the design and production of their ranges. They faced difficulties, first with exact colour matching, where necessary, between carpets and woven and printed fabrics using different yarns and fibres whose reactions to similar dyes are not always predictable. Tibor Reich, who designed most of the patterns and colour ways concerned in the two ranges, found that he had to proceed empirically. While the development of both printed and woven fabrics was carried out in his own factory, he had to rely on the active co-operation of Frank Stockwell and his colleagues to ensure that the carpet designs and colours were put into production according to plan.

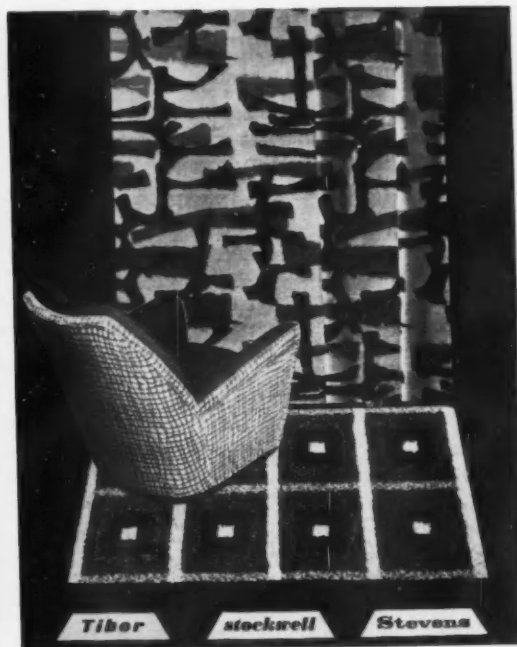
A second difficulty came when the ranges had to be introduced on the market. Here, to begin with, was

familiar ground for Mr Reich, for he had been designing Stockwell carpets for 18 months and his own fabrics for more than 10 years. To link both elements in a forceful and spectacular manner he initiated a travelling exhibition, first shown early last year in Stockwell's London showroom. Subsequently the exhibition toured leading retail stores in the Provinces and the idea that carpets and fabrics could be sold from a related range began to take hold.

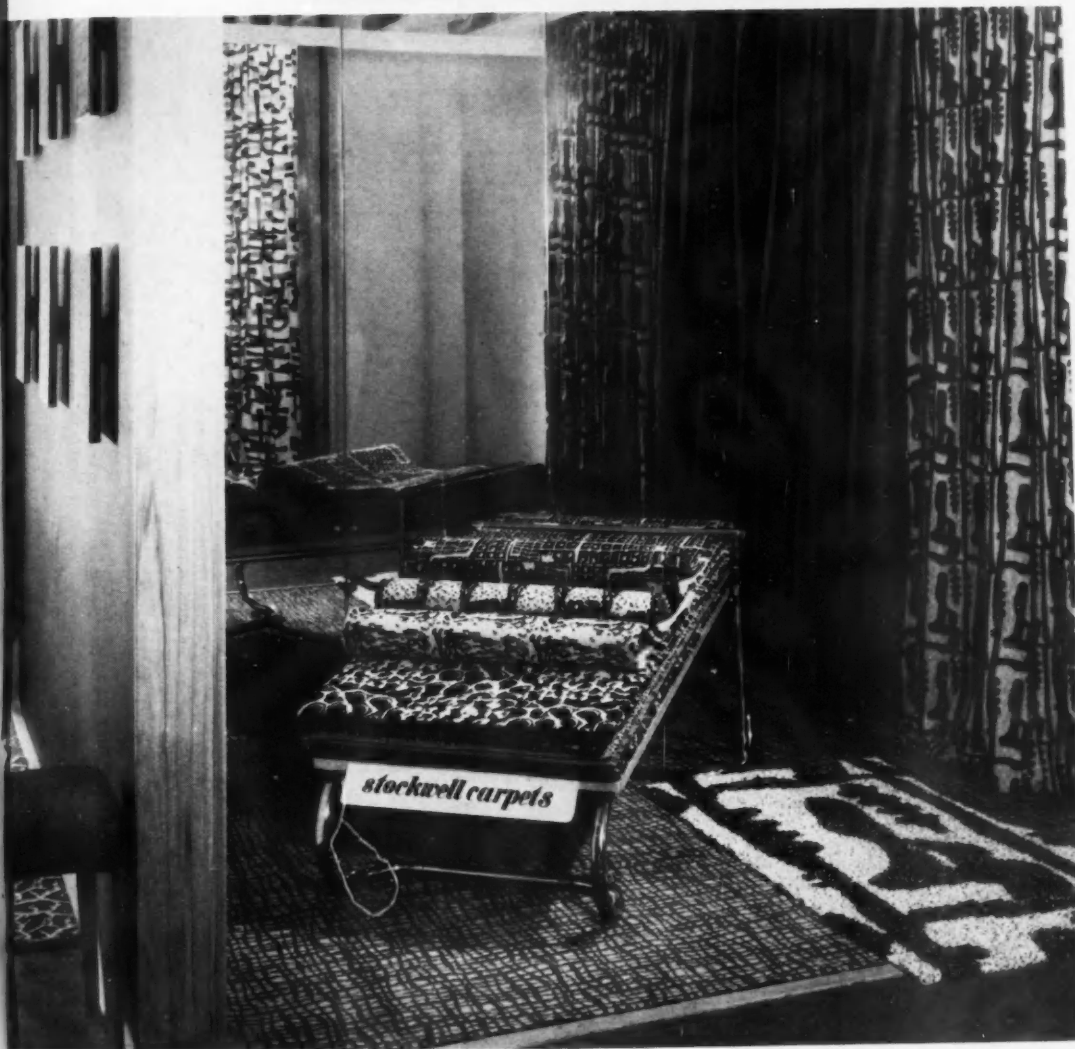
The colours and patterns shown on these pages are from a new collection not previously exhibited together. They have been selected from the wide choice now available from both firms in order to take the story on to the next stage. To show that carpets and fabrics – particularly upholstery fabrics – should be chosen together by the customer, it is necessary to have an obvious connecting link in the colours. But having established this elementary point-of-sale truism, neither Tibor nor Stockwell need insist, as did their early exhibitions, that one fabric pattern and colour are only good when used with one specified carpet. Not only has it proved possible to draw the theme of one carpet colour, sparingly used, through a variety of fabrics, but – as the illustrations here show – stimulating results can be achieved when direct contrasts heighten the blended tones. The rightness or wrongness of colour combinations can only be demonstrated; they can seldom be discussed with much profit. But the successful combinations now possible between Tibor fabrics and Stockwell carpets did not just happen; they were achieved because one designer with an acute colour sense controlled their development and two firms worked harmoniously together. It now rests with the retailer to take up the initiative and show the public new possibilities in home furnishings. M.F.



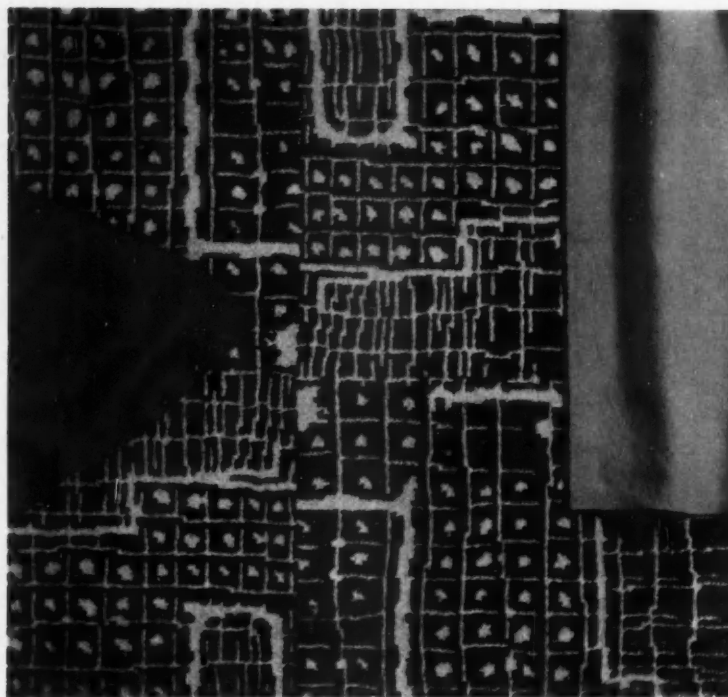
Shared advertisements co-ordinated by Tibor Reich have helped to relate different furnishing elements, though the appeal is necessarily limited by the absence of coloured illustrations.



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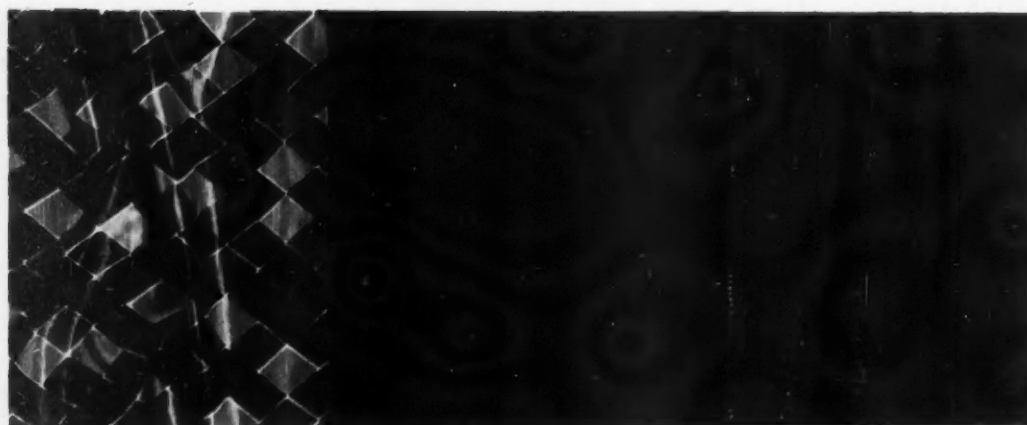


Part of the London showroom of S. J. Stockwell & Co (Carpets) Ltd. A Tibor fabric hangs on the right, above a 'Viceroy' rug; some of the new Wilton carpet designs are shown in the stack.



**Carpet:** 'Caserta', black and silver-grey; available from stock in black and persimmon.

**Fabrics:** 'Sea Foam', yellow, wool/'Ardil' mixture. £2 0s 7d.  
'Isis', red, wool pile on cotton warp. £2.



**Carpet:** 'Crusader', Ionian blue.

**Fabrics:** 'Gondola 58', peacock. £1 3s 3d.  
'Firenze 4', flame upholstery. £1 18s 6d.

**Carpet:** 'Cortina', black and azalea.

**Fabrics:** 'Palermo', mauve, black and yellow, cotton slub.  
DESIGNER *Julius Frank* £1 3s 3d.  
'Isis', mauve upholstery. £2.

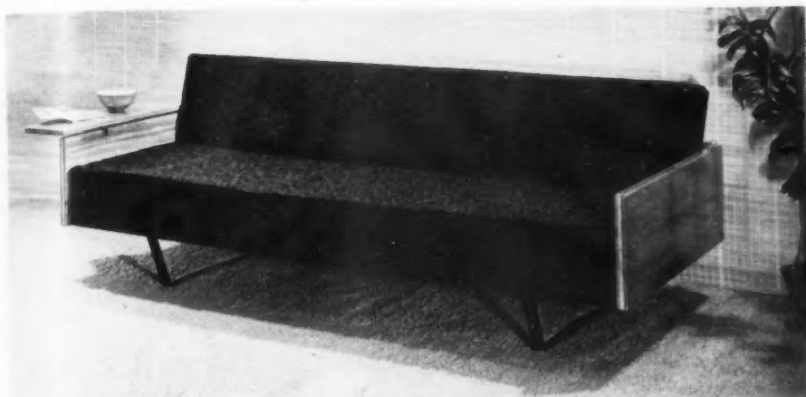


1 The back of this settee is hinged so that it can be converted into a bed; it is upholstered with 'Latex' foam set on 'Pirelli' webbing. DESIGNER *Robin Day*. MAKER *S. Hille & Co Ltd.* £55.

2 A chair from a new range that will be seen for the first time at the exhibition. The arms are covered with grey hide, and the covers, which are removable, are available in various colours. DESIGNER *Ernest Race*. MAKER *Ernest Race Ltd.* Price from maker.

3 Part of a new range of 'extendable' furniture that will be discussed in next month's issue of *DESIGN*. It is specially constructed so that the purchaser can add to the various units. DESIGNER *C. Braakman*, MAKER *D. Meredith Ltd.* £25 12s 9d.

4 Reclining seat five ft six inches long made of teak and upholstered over foam rubber supported on 'Dunlop' webbing. DESIGNER *E. L. Clinch*. MAKER *Goodearl Bros, Ltd.* £27 10s.



## Selected furniture

*on the CoID's stand at the forthcoming 'Furniture Exhibition'*

THERE WILL BE a special display of designs selected by the CoID at the 'Furniture Exhibition' this year, which is to be held at Earls Court from January 23-February 2. Sponsored by the British Furniture Manufacturers' Federated Associations and the National Federation of Bedding and Allied Trades, this was originally a trade show. In previous years the public has only been admitted on certain days, but for the first time this year the ground floor at Earls Court is to be open to the public during the whole of the exhibition.

The CoID stand forms part of this public section, and furniture chosen by a CoID committee from the ground floor exhibits will be displayed there. About 20 manufacturers will be represented, and many of the exhibits will be selected from new designs shown for the first time at the exhibition. The stand itself is being designed by Robert Wetmore, who is also responsible for the display. The illustrations on this page show a few of the exhibits that have already been chosen.

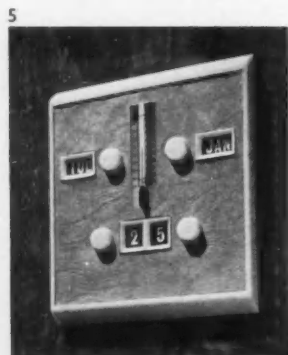
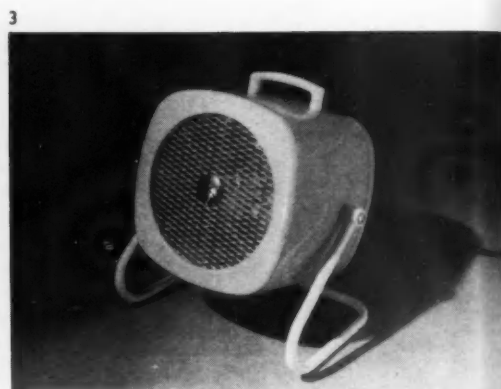
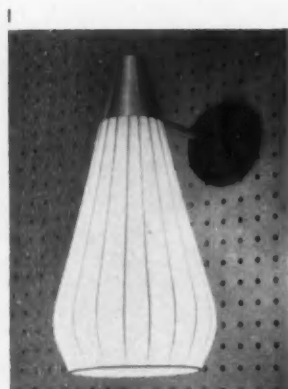
Also in the public section there will be displays by the SIA, the High Wycombe group of manufacturers and by various art and technical schools. The public section will be open weekdays from 10 am to 9 pm.



# Review of current design

A selection of items recently accepted for inclusion in 'Design Review', the CoID's photographic and sample record of current well designed British goods. 'Design Review' forms an essential part of The Design Centre, 28 Haymarket, SW1, which is open on weekdays from 9.30 am - 5.30 pm.

All retail prices quoted are approximate and include purchase tax where applicable



1 Wall light from a wide range of fittings which make use of the 'cocoon' technique of spraying plastics over a wire frame, originally developed to preserve war equipment. The technique results in a soft even diffusion of light comparable to less permanent materials, and is capable of an infinite variety of shapes. DESIGNER Beverley Pick. MAKER Chrysaline Ltd. £3 3s.

2 Range of pottery kitchenware available in many colours. DESIGNER S. C. Talbot. MAKER A. E. Gray & Co Ltd. Prices from maker.

3 Fan heater, which may if required be wall mounted, can be used for heating in winter and cooling in summer. Tubular metal legs have now replaced the heavier looking metal pressings used in earlier models. DESIGNER Robert Cantor. MAKER Gillott Electro Appliances Ltd. £9 19s 8d.

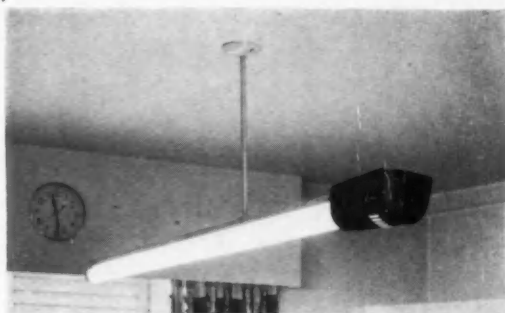
4 Coffee service in stainless steel showing a strong Scandinavian influence. DESIGNER Robert Welch. MAKER J. & J. Wiggin Ltd. £12 10s 6d.

5 'Datometer' wall calendar made of moulded ivory plastics, inlaid with leather; it has an adhesive backing so that it can be easily fixed to the wall. DESIGNER R. Soulthorp. MAKER Elk & Co Ltd. 10s 9d.

6 Binoculars with carefully shaped lens casings to ensure a comfortable grip. The magnification reading is 9 by 35. MAKER Ross Ensign Ltd. £19 16s 5d including carrying case.

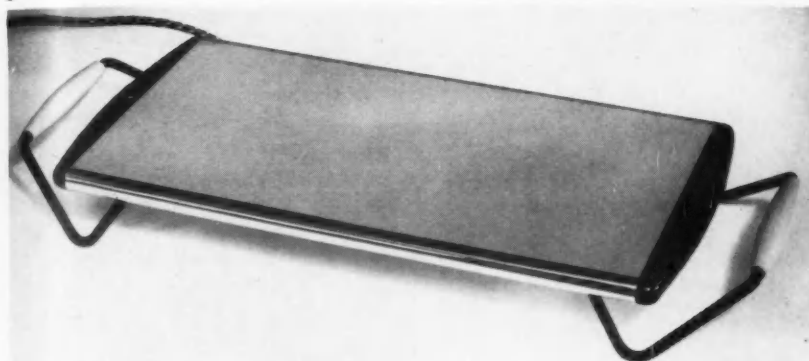


7



7 Fluorescent kitchen light fitting with the essential components – tube, starter gear and supporting rods – forming an integral part of the design. DESIGNER *John Reid*. MAKER *Atlas Lighting Division, Thorn Electrical Industries Ltd.* £3 5s 8d.

8



8 Electric platewarmer made of polished stainless steel with black moulded 'Bakelite' ends. It reaches a maximum temperature of 400°F and there is a pilot indicator light. MAKER *Revo Electric Co Ltd.* £7 10s.

9



9 'Vynair', a new PVC coated fabric, allows air to pass through the weave, obviating the necessity for eyelet holes normally required when similar coated fabrics are used as a covering for foam cushions. The textured abstract pattern is a welcome departure from the imitation weave effects normally associated with this type of material. MAKER *The Leathercloth Division, Imperial Chemical Industries Ltd.* 12s per yard.

10



10 Moulded plastics vacuum jug, available in many colour combinations. It holds approximately one and a half pints. DESIGNER *Jack Howe*. MAKER *Thermos (1925) Ltd.* £2 13s 11d.

11



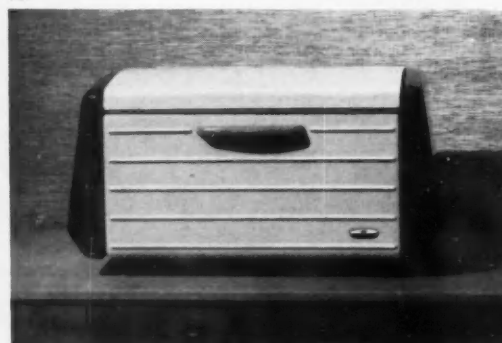
11 Earthenware hors d'oeuvre set; the dishes nest in a metal rod frame. MAKER *Joseph Bourne & Son Ltd.* £2 5s per set (individual dish 7s 6d).

12



12 Floor brush first produced in 1908, and now redesigned to give greater flexibility in use. The handle is mounted on a swivel, and the metal parts are in aluminium alloy with a sprayed metal finish. DESIGNER *David Ogle*. MAKER *Ronuk Ltd.* Price from maker.

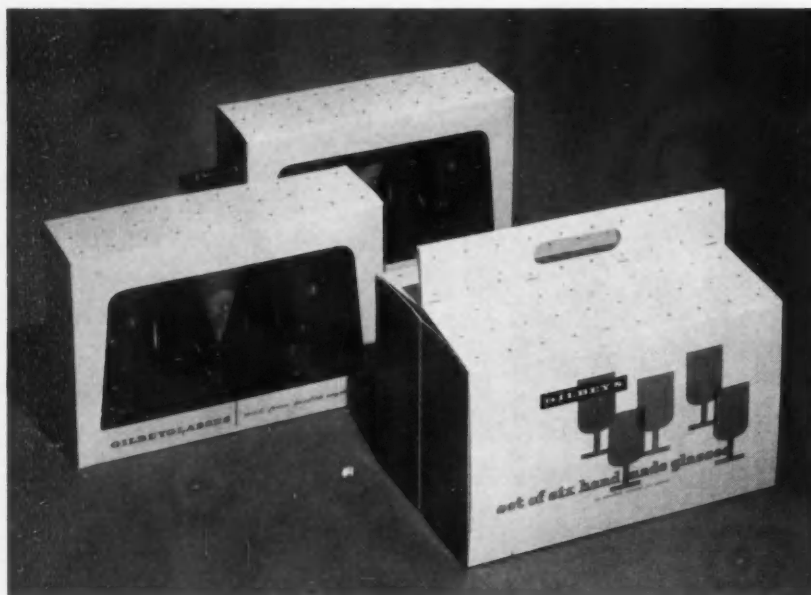
13



13 Electric table cooker designed to fit in with the furnishings of the modern dining or bed-sitting room, rather than the kitchen. It will be discussed in detail in the February issue of *DESIGN*, in the first of a new series of product analysis articles. DESIGNERS *Wilkes & Ashmore*. MAKER *Tricity Cookers Ltd.* £12.



## Bouquet for glasses

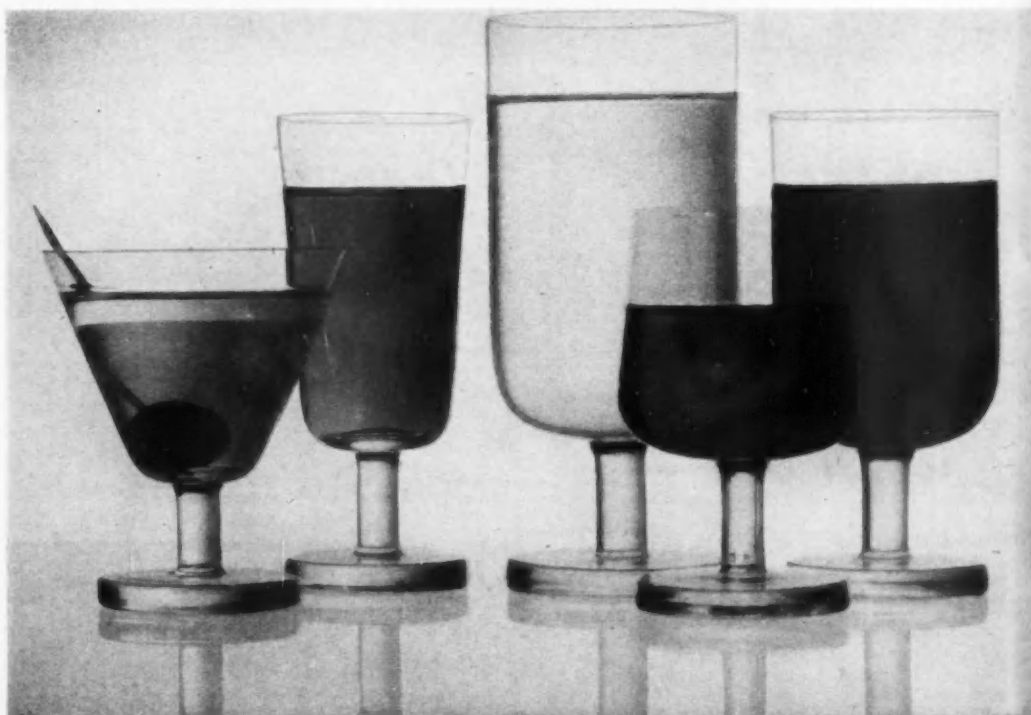


Each pack consists of two containers which slide into a cardboard sleeve complete with carrying handle. The glasses are held firmly in position by coloured paper cones.

A RANGE OF WINE GLASSES produced by a wine merchant seems logical, but is in fact extremely rare. If it were more common a different tradition of glass design might have developed in this country. According to the wine expert shapes are often incorrect – the shallow saucer shaped champagne glass, for example, is not good for an effervescent drink which will quickly go flat when exposed to the air. Likewise the large balloon shaped brandy glass has no functional justification. The glass makers' predilection for ornate cutting and engraving is also disliked by the wine connoisseur, who maintains that anything but pure undecorated crystal distorts the true colour of the wine.

When W. & A. Gilbey Ltd decided to launch a range of glasses that took into account these special requirements, the designer, R. Stennett-Willson, based his designs on glasses which for many years have been used by the firm for wine tasting. The deep bowls and straight sides, which retain the wines' 'bouquet', the chunky bases and short stems, which give visual and actual stability, result in a style which is unusual and instantly recognisable. The rather elaborate packs designed by W. M. de Majo will make this distinctiveness more apparent in the wine shops and retail glass departments where the glasses will be sold. Whether or not these austere designs will have a lasting influence on table glass shapes generally remains to be seen, but it is a pity that the designer found it necessary to go to a Swedish glass manufacturer to obtain the combination of good quality and low price he was unable to get from the British industry. J.E.B.

The complete range, left to right – cocktails, sherry, champagne, liqueurs, wines. Prices, for sets of six including purchase tax, are approximately 36s for the four small sizes and 42s for the large.

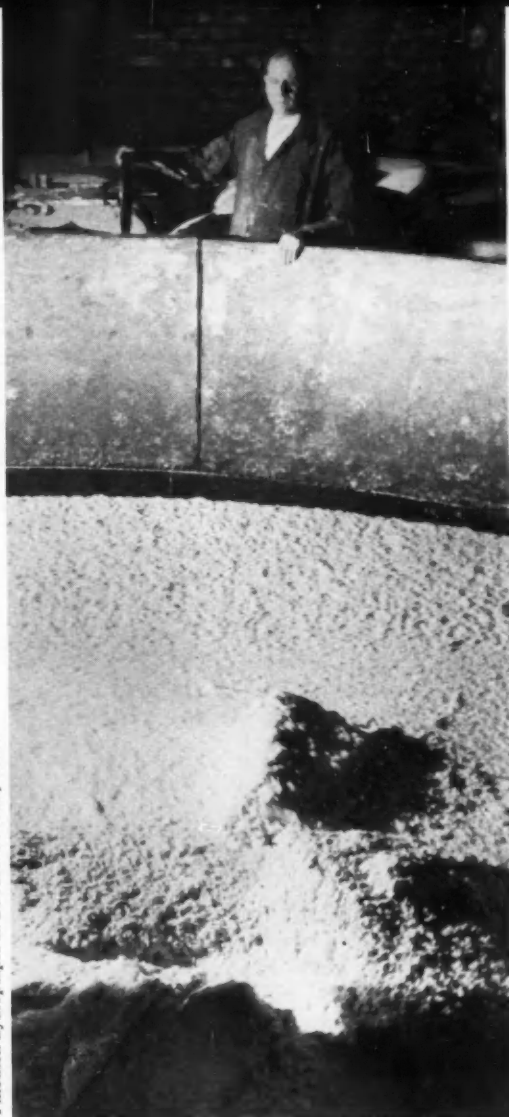


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A modern hydropulper in Bowater's Mersey Mills



*The author has visited five producers of pulp mouldings. Three of these are concerned with soft mouldings used mostly for packaging. The remaining two produce hard mouldings which, he suggests, can become an exciting new and inexpensive structural material for designers.*

## *a future for* **MOULDED PULP?**

F. C. ASHFORD

THE CAPACITY to adapt our environment to our own needs has contributed much to our ascendancy over other creatures. Not only are we able to reason and plan, but we utilise – and rearrange for use – all kinds of natural materials with great skill and ingenuity.

There is, however, one field of material re-arrangement in which I feel we have not done quite so well; that is the utilisation of wood, in the form of pulp, as a structural material. The wasp, in my opinion, does it much better. It chews wood fibres to produce a pulp, with which it builds the most fascinating and aesthetically satisfying structures, often equivalent in human scale to a large block of flats.

We also reduce wood to pulp in mills and hydropulpers, and add binders; but, for the time being, we fashion it into forms far less imaginative and aesthetically satisfying than the handiwork of the wasp.

Will this always be the case, or shall we see moulded pulp become a significant structural material offering,

through reason of its comparatively low cost and good physical qualities, opportunities for the realisation of larger and more important units? The question is an open one, but worthy of examination.

### **Soft mouldings**

Moulded pulp articles are, broadly speaking, either 'soft' or 'hard'. The first category covers those which are merely 'felted', i.e. where the pulp slurry is deposited by pressure or vacuum on to a perforated form tool which permits passage of the water but not of the matted fibres. No further pressure is employed to compress or interlock the fibres and no resin is incorporated in the mixture; the mouldings are simply transferred to a drying tool or an oven to drive off the residue of water.

Such mouldings have one smoothly textured surface produced by the weave or perforation of the tool and one more strongly textured surface produced by the

## Moulded pulp

flow and settle of the pulp. They are employed largely in the field of protective packaging; the conically embossed egg container is perhaps the most familiar example, followed closely by the numerous examples of unmistakable purpose safeguarding the arts of the distillers. They are also employed very extensively in the packaging of engineering components, for which they are particularly well suited since they can be formed to cushion the article completely, while the natural resilience of the material provides complete protection for finely finished surfaces and delicate mechanisms.

### Hard mouldings

For 'hard' mouldings the pulp has a phenolic resin content, varying from 5-20 per cent, and additional heat and pressure are employed to effect a 'cure', calling for one or more further pressing operations with matched tools. Such mouldings have one smooth and one smoothly textured surface, or both surfaces can be smooth with a result roughly equivalent to that of a plastic moulding from an unpolished tool. It is this second class of moulding, with its superior physical properties, which affords the greater speculative interest.

The largest hard mouldings at the moment are simply flat sheets of what we know as hardboard, formed by depositing resin-impregnated pulp on to a woven wire screen through which the excess moisture is drawn off, then finished by the pressure of a heated platen to produce a board with one smooth face and the familiar criss-cross pattern on the other.

Although this board is now given a variety of moulded and patterned surfaces, it retains essentially a two dimensional quality, its structural applications being limited almost entirely to panelling. It is capable of limited curvature in one plane only and cannot be edge fastened.



The intricate structure of a wasps' nest is built from the pulp which results from chewing wood fibres. Photographed in the Natural History Museum, South Kensington.



There are, however, smaller and more interesting mouldings, including cases for radio sets, record-players, portable typewriters, and for ordinary luggage purposes. There are numerous items for radio and television sets, some of considerable complexity of shape which would call for the fabrication of several parts if made by conventional materials and manufacturing methods. Other applications include factory work trays of all kinds, waste-bins, treads for step ladders and housings for noisy electrical equipment.

Moulded pulp has also made a modest entry into the motor car industry, in the form of glove boxes, demister manifolds, etc. Shall we see the whole door, the dashboard, or the whole car body made of pulp? The idea may not accord with currently accepted theories of body construction, but there is no reason to believe that an integration of steel pressings is the final answer. One could at least be certain of two things. A moulded pulp body would not rust and would contribute much to the elimination of one of civilisation's greatest banes, the midnight car door slam.

Further contemplation of moulded pulp as a structural material may be rendered more constructive by a brief examination of the method of manufacture.

### Manufacturing techniques

While slight variations are practised by different firms, the moulding procedure consists basically of depositing the pulp slurry by positive or negative pressure on to a shaped, preform tool. This can be either male or female and is faced with woven or perforated metal to enable the excess water to be drawn off.

This produces a limp moulding known as a 'felt', which is several times the thickness of the finished part and which is subjected to further heat and pressure between matched tools to reduce it to a moulding of the required density. A moulding 'felted' at  $\frac{1}{2}$  inch would have a finished wall thickness of  $\frac{1}{8}$  inch, about the maximum at present obtainable.

The pulp is a mixture, varied according to the strength required, of mechanical wood pulp and pure kraft - two of the normal types of pulp used in paper making - reduced to a slurry with water and with an additional solution of phenolic resin. Dyes and substances to increase moisture resistance can be added as desired. In its normal undyed state the slurry looks like thin, badly made porridge, an appearance which the addition of colouring matter does nothing to improve.

As with glass fibre mouldings, forms with compound curvature are desirable. Besides correcting a pronounced tendency for flat surfaces to pull in and produce a sunken effect, compound curves contribute enormously to the stiffness of the moulding. While quite sharp corners can be held, a minimum radius of  $\frac{3}{8}$  inch is usual, and though one manufacturer's process permits mouldings up to 24 inches in depth with parallel walls, a two inch depth is the most that can normally be obtained with parallel walls with a draw of three degrees above.

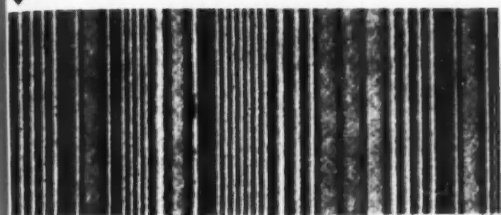
Finished mouldings can be drilled, punched and sawn with ease and the material provides an excellent

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'Soft' pulp mouldings are used extensively as packs for fragile products such as delicate engineering components, bottles, etc. They have no resin content, and are smoothly textured on one surface. These examples are by Universal Pulp Containers Ltd.



Hardboard, the largest 'hard' pulp mouldings, are restricted to use as flat panelling or curvature in one plane, though a variety of moulded, patterned surface finishes is now available.



Murphy portable television receiver with a casing made from two identical pulp mouldings by Fibre Form Ltd. The high strength/weight ratio of the material coupled with its comparatively low price, is ideally suited to this purpose.

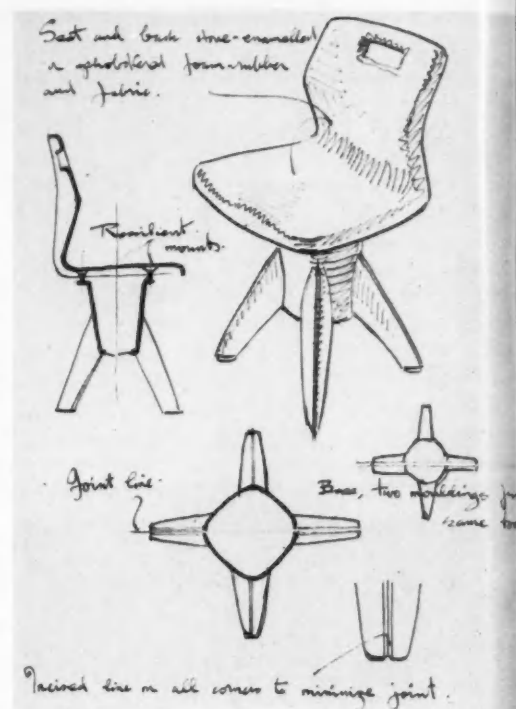
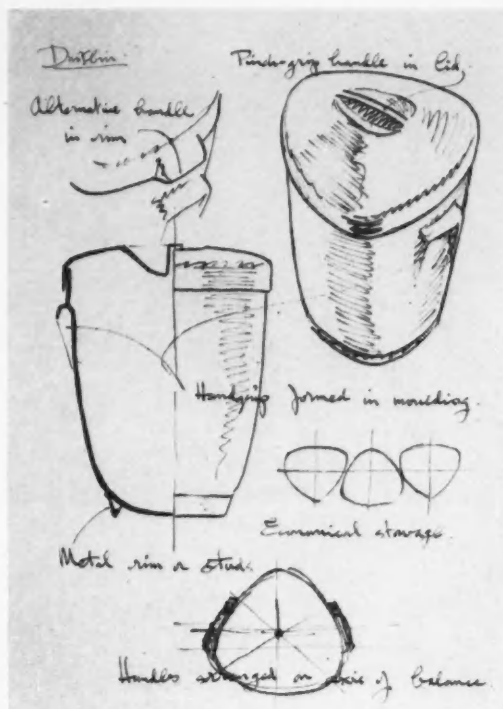


Typical examples from two firms producing hard pulp mouldings in this country. The top seven are from Prestfibre Ltd and include mouldings for a suitcase, a waste bin and several caps to cover the rear ends of television tubes. The small product with the carrying handle is a projector case and has a PVC covering. The five mouldings in the foreground are by Hawley Products Ltd. In the centre is a demister manifold for a car. Other mouldings are (left side) a component tray and a back for a television receiver; (right side) glove box for a car and part of a portable radio cabinet.



## Moulded pulp

Two suggestions for more ambitious designs which exploit the structural characteristics of hard pulp mouldings. The dustbins, left, are roughly triangular in shape for compact storage and have handles which are an integral part of the mouldings. The base of the chair, right, would be in two mouldings from the same tool. The seat and back would be a single moulding upholstered with foam rubber.



surface for the bonding of attachments. It will take all the normal air dried and stoved finishes and can be flock sprayed or covered with plastic cloth.

Size limits are governed purely by the sizes of the presses in use at the moment, which are smaller than they might be since the industry has been concerned hitherto with relatively small articles. Mouldings of 30 inches by 20 inches by 24 inches depth appear to be the present limit, but one manufacturer hopes to be producing mouldings up to 60 inches by 48 inches by 24 inches depth very shortly.

Much of the future of the industry may hinge upon this question of press size; its ability to enter into some fields will depend upon it entirely. This problem of equipment capacity is one which many industries have had to face, a barrier through which they have had to thrust.

The physical characteristics of moulded pulp vary considerably as a result of different thicknesses, shapes, resin content, type of pulp, and moulding pressure used, but they are encouraging. A typical moulding for a record player base has a tensile strength of 8,900 pounds per square inch; a high pressure, heavy fibre at present under development has shown a tensile strength of approximately 12,000 psi in the pressed condition.

Impact strength (Izod, unnotched) is 6-10, which is roughly twice as good as for an ordinary phenolic plastic moulding and about equal to that of a glass fibre moulding.\*

No figures are available for flexural strength, but it appears to be satisfactory and is, of course, something

\* The piece is held in the Izod testing machine and is subjected to a blow from a pendulum. In this way the energy required to fracture the specimen is measured.

to which the design of the part contributes considerably. A conical cap for a cathode ray tube and a much larger suitcase shell may be jumped upon without any resulting damage or deformation.

The weight of moulded pulp is one-eighth that of a similar thickness of steel. Making allowance for thicker sections to achieve adequate strength, considerable reduction in weight over an equivalent metal part should be possible.

Water absorption varies with the amount of additive to reduce it, the type of pulp and the resin content; but while it may be as high as 17 per cent after 24 hours' soaking, it can be reduced almost to nothing by suitable impregnation and finishing.

Add good thermal and acoustic properties - less, of course, for a hard than a soft moulding - and moulded pulp can be seen as a material which is to be seriously considered for many applications other than those in which it is used at present.

### New design possibilities

Starting near home, what about a moulded pulp dustbin? It would be quiet, it would not rust, although it might need a light pressed metal ring or studs upon which to stand. It would not have the putrefactive trap provided by the joint between the body and the base which seems inescapable with metal construction. Waste bins of only slightly smaller size are already being made.

Perambulator bodies, push-chairs, kiddie cars and play equipment would all seem to offer legitimate scope; tools have, in fact, been made for a perambulator body.



Given suitable protective finishes, is it unrealistic to think of moulded pulp roof tiles, gutters and rain-water goods generally, of lavatory cisterns and small portable building units? Dry partitions, shelving units, drawers and chairs all seem possible candidates.

I have already mentioned the motor car industry, but in the face of existing capital investment in conventional press equipment the idea of moulded pulp bodies must appear rather ludicrous. Yet the facts remain. Here is a material, lighter and cheaper than steel, seeming to have physical properties adequate for the protection of the occupants of a vehicle and which could be fabricated to the required size. It could almost immediately make a contribution to a reduction of the accident hazard. The prospect, unattractive as it may be, of one's skull being bounced on a moulded pulp dashboard is surely preferable to it being bounced on one of steel. We should make sure that we are not leaving moulded pulp to competing nations to explore and develop its possibilities.

#### Development and production costs

Moulded pulp, like any other material, must have its shortcomings. Many of these would not become apparent until specific development work was undertaken, but one known difficulty, and one likely to prove the greatest impediment to its rapid acceptance in new fields, is that of producing a working sample.

By using parts of existing tools, coupled with a little fabrication and faking, it is relatively easy to produce a purely cosmetic effect; but it requires nothing less than a full set of working tools to produce a sample which can be tested structurally. This is of little consequence with a great many current applications, where structural strength is not always of great importance and

where a similar, application already exists.

With any new development a factor of speculation is introduced, and this could only be balanced by free access to the results of research and experimental work of an advanced nature. During these enquiries I did not hear of any such work being done.

Like any other tooled-up process, moulded pulp requires long runs to make it economic, but figures quoted for one moulding – a tray for a record-player – suggest that a run which might be uneconomic for a steel pressing would still show an overall saving as a pulp moulding. The unpainted metal part costs £1, with tool costs of £1,500; the unpainted moulded pulp part costs 2s 6d, with tool costs of £700. With glass fibre laminates using a wet lay up process the cost of the finished part might be as much as six times that of the pulp moulding using tools.

While soft mouldings require only a felting tool and a drying tool, hard mouldings require a felting tool plus a pair of matched tools; one particular process requires one other intermediate tool.

Moulded pulp is not the answer to the manufacturer's prayer for a cheap material for single unit construction possessing every desirable quality of strength, lightness and durability and requiring little or no capital investment in tools. Such a material has yet to be produced.

However, it does possess a number of very commendable qualities and would seem to compare very favourably with other materials for many applications. From the designer's point of view it is a material permitting great freedom of expression, and, given the courage by users to employ it in new and more exciting ways, we should be able to close the gap in performance between ourselves and the wasps.



Japanese designers have recognised the value of this cheap material to solve furnishing problems for families which are rapidly adopting Western habits. These pieces, designed by M. Yanagi, have a traditional laquer finish.

A design by the French artist René Cottet, 1, shows that satisfactory results can be achieved when complete artwork is supplied to the security printer; in this case the British firm, Harrison & Sons Ltd. A comparison between 2 and 3 reveals the hampering effects of using standard components: both stamps are produced by Thomas De La Rue & Co Ltd, but whereas 2 is a haphazard combination of unrelated elements with the standard portrait amateurishly adapted to the larger format, in 3 the problems have been solved satisfactorily. Lettering is often a weakness with the security printer; in 4 there was an unjustified mixing of expanded and condensed serif and sans serif types when adapting the vernacular script of the original design 5, which came from Pakistan. In 6, note how expertly the Swiss firm Courvoisier SA has dealt with 38 words of inscription.



## Stamp designing in the UK

THE INITIATIVE must come from the commissioning authorities if the design of British colonial stamps is to be improved; this fact has been emphasised again and again in my discussions with stamp designers and printers which have followed the publication of my article on the design of colonial stamps (DESIGN October 1956 pp 37-41). On the Continent the commissioning authorities ensure that time and care are spent on experiments to achieve a high standard of design. In the UK this is not so; in many cases the roughs received by British printing firms are not seen by a designer but are passed straight to a draughtsman, who then composes the stamp using prefabricated units. The approved standard portraits (two profile, two *en face*) and standard crowns are already engraved and to these the draughtsman adds the border, lettering and numerals to the best of his ability, to fill any space after the vignette has been incorporated. Ornaments are then selected to hide the 1 mm divergence of register which often occurs in two colour recess printing.

So long as the authorities concerned submit their own roughs as a basis for design, present standards will continue. Reform must come from the top, from colonial post offices, the Crown Agents, the Colonial Office and from directors of printing firms who have an active appreciation of current graphic design produced in Britain and abroad. A recent stamp from the New Hebrides, 1, shows what can be done when the printer is supplied with a carefully finished drawing; in this case artwork was sent from Paris and printing in photogravure was by a British firm, Harrison & Sons Ltd.

Designs for British national stamps are chosen by means of limited stamp competitions. In his letter to DESIGN (December 1956 p 61) Abram Games draws attention to the large number of entries for these competitions. This is part of a policy to give as many people as possible a chance of competing. A number of designers are invited to submit entries; the list is not static one, and new names are introduced according to the problems involved in the competitions. Judging is carried out by a CoID committee consisting of Sir Francis Meynell (chairman), Sir Kenneth Clark, Lady Sempill, Sir Leigh Ashton, Sir John Wilson, James Fitton and Sir Gordon Russell, director, CoID; joint meetings are held with the Postmaster-General's advisory panel.

The CoID committee was formed in 1947, and is concerned solely with designs for the British national stamps. It is now considering three Boy Scout Jubilee Jamboree stamps which are to be released for the fiftieth anniversary of scouting in August. Other committees have also been formed recently to recommend designs for new regional stamps for Scotland, Wales and Ulster. These will appear later this year, and will be in the familiar small format, showing a portrait of the Queen with a new background and ornaments. Stamps to the value of 2½d for Guernsey, Jersey and the Isle of Man are also in preparation.

One new and satisfactory development is the recent announcement that British 'postage due' labels, unchanged since 1914, may be replaced by more pleasing patterns.

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# Overseas Review

## Pointers to international trends

JOHN E. BLAKE

MANY PEOPLE who have followed closely the development of modern design since the war, and have urged the need to shake off conventional foibles and to experiment with new forms, are now wondering where the next move in the trend of design will take them. In many parts of the world the pioneer work has been largely done, and while there is less which can be described as *avant garde* there is proportionally very much more that is of a moderately high standard. The pyramid of taste, to use an oft quoted metaphor, has spread and at the same time become flattened.

Although it must be recognised that the vast majority of manufactured articles all over the world are still produced with little thought for their design, fundamental progress has been made in certain directions. The principle of function as a controlling influence in design is widely accepted today. The idea, for example, of making an electric heater that looks like an electric heater and not a log fire, is largely taken for granted. A chair, whose primary purpose is to be comfortable rather than follow some preconceived idea of style, no longer has to be justified in heated argument. Architecture which, through the development of new materials, first gave birth at the beginning of the century to the idea of functionalism in design, and has perhaps been the most consistent in developing a modern idiom, is still paradoxically the subject of popular controversy. East of the iron curtain, as well as in Great Britain, phoney load bearing walls still grow across skeletons of structural steel.

### Basis in the Modern Movement

Honesty in design, however, was the preoccupation of the pioneering designers of the Modern Movement, and a common failure to recognise its validity was a major barrier to progress. Only the refinements of subsequent years in most durable consumer goods industries, have made ordinary people aware that functional design can also be beautiful.

The Scandinavian countries show perhaps the most consistent and far reaching progress within this developing modern tradition - in industries which generally have original associations with hand craftsmanship. In America the tell-tale characteristics of the industrial designer's handiwork are recognisable on all types of equipment, and have influenced product design throughout the world.

A design norm is in fact becoming established and, in broad terms, is international in character. Modern furniture, pottery and lighting equipment may vary in size or shape from one country to another, new

forms or patterns may ring the changes from year to year, but seen in perspective the overriding similarities are apparent. Even in Italy, the home of experiment, the changes are within an existing idiom. The value of this period of stability in design cannot be questioned. While the process of refinement continues, the basic idiom is filtering through to wider and wider sections of the community whose choice is confirmed rather than confused by the design leaders.

### Artificial obsolescence

The desire for change, however, is becoming an increasingly dominant factor in the sales campaigns of many mass production industries, and is notably more apparent in such highly developed economies as the USA where the functional yardstick is already becoming obscured. Without the need to change the basic conception of a product, American designers have therefore tended increasingly to alter the outward form. Thus change is often stimulated artificially, and after a number of years the appearance of a product may bear little relation to its original form, though its purpose may remain fundamentally the same.

The most obvious example of this process can be seen in American cars where the simple form of a



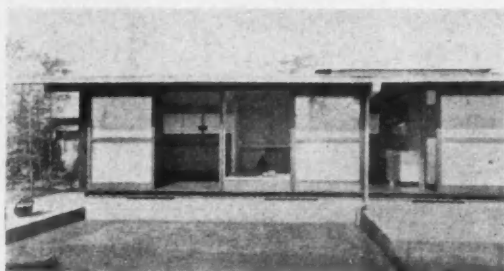
The new Lincoln 'Mercury.' Photo Sam Lambert

monocoque steel body 10 years ago has since become encrusted with ornament and distorted out of all recognition. Similar cases in the domestic equipment industry reveal this continuous search for new gimmicks to sell old products.

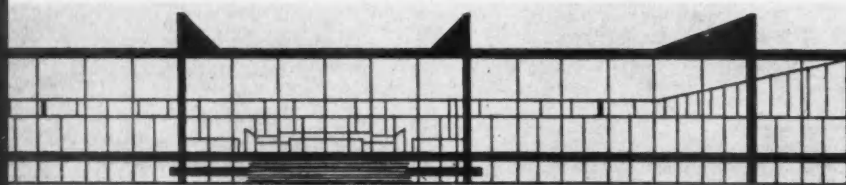
Furniture in the USA has been following a different but parallel course. With few new creative ideas to provide a lead, American manufacturers have been shifting from one semi-traditional style to another. The Japanese influence has been particularly insistent,



and Oriental clichés, self-consciously contrived to satisfy a popular sentiment, have appeared apparently without recognition of the close affinity already established, unconsciously, in architecture between the light frame structures of Mies van der Rohe and recent



Modern Japanese house. Photo 'Kenchika Bunka'.



Mies van der Rohe's Institute of Design, U.S.A.

Japanese developments of traditional building methods. Here the extremes of East and West are moving closer together and universal solutions are being found to common problems.

Where does Great Britain stand within this international design scene? Again seen in broad perspective there is a core of advanced modern design which relates closely in quality to international trends. Many countries however are notable for particular achievements – Sweden for pottery and glass, Denmark for silver and furniture, Germany for lighting glass, the USA for domestic equipment and metal goods of all sorts, Italy for office and lighting equipment, etc. In Great Britain, though we have established high standards in many consumer goods, there are few industries in which we have been able to create a design leadership that is internationally recognised. Leather goods and sports cars may be exceptions.

There seems little likelihood that British manufacturers can reverse this situation, to become leaders within the established design idiom of today. Real progress is likely only with a fundamental reconsideration of the problems which affect our way of living.

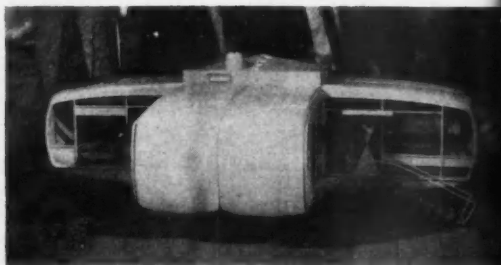
Research into basic consumer requirements is still a long way from becoming a reality and even the comparatively little market research that is conducted, both at home and abroad, is largely concerned with selling a product once it is made rather than investigating the real needs of the community before the product is conceived. Are we entirely satisfied, for example, that the conventional form and arrangement of a cooker or refrigerator are the best for the work they perform? Is the type of seating provided in public transport designed with an understanding of human body sizes? – and so on. In America, organisations exist for the independent

testing of many types of consumer product, and the results are published. But so far most work of this nature has concerned mechanical performances and little has been done which affects aesthetics and use convenience. Limited experiments in this field have however, been made and are discussed more fully in the article beginning on page 20.

### Technical progress

Side by side with these studies of social requirements is the need for research into materials and methods of production so that new ideas can quickly be put into effect. Considerable progress in kitchen design and planning has been made by some of the large domestic equipment manufacturers in the USA, and the results of their researches have been demonstrated in the form of exhibition kitchens (eg the Frigidaire 'Kitchen of Tomorrow' DESIGN July 1956 page 41). Such experiments, though advanced technically, are in fact giving concrete expression to living habits which already exist in embryo, and at the same time pave the way for the actual production of revolutionary designs such as the American General Electric 'Kitchen Centre'.

The development of plastics, and particularly reinforced plastics, is providing further opportunities of satisfying the demands of new social habits. Already these materials are being used on an increasing scale for products ranging from moulded furniture to cars, boats and caravans. The experimental Monsanto plastic prefabricated house suggests entirely new forms in domestic housing, while the plastics house competition organized by the American Society of the Plastics Industry shows that the possibilities of these new



Plastics house, Monsanto Chemical Co, U.S.A. Photo Jane Miterach 'Industrial Design'.

materials are being seriously exploited in terms of realistic planning for the future.

It therefore seems that research is the starting point for significant developments over the years to come – research into social habits, and into new materials and their applications. Changes of taste – in colours and decoration, and to some extent in the shape of products – will be inevitable and are by no means undesirable if logically related to broader developments. The types of research which are already being carried on, or which deserve more attention, will be discussed in detail in later issues of DESIGN. The foundations of future progress exist, however, in the designs which are in production today. The illustrations on the following pages show that high standards in many countries abroad are providing this necessary basis.

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## Overseas miscellany

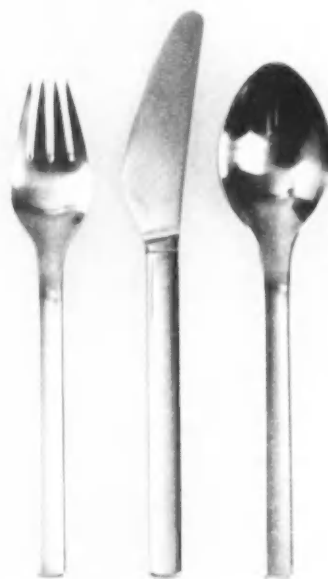
The illustrations on the following pages show some of the highlights of achievement among designers in 10 countries. Embracing a wide range of products and industries they serve as a useful basis from which to assess current British standards.

**Denmark** Sensitive use of woods by Danish furniture designers and manufacturers can be seen in this photograph of the furniture section of Copenhagen's Den Permanente – a selective permanent exhibition of well designed Danish products. Unlike The Design Centre in London exhibits are on sale to the public.



**Denmark** Cased glass vase. The inner surfaces are green and the outer surfaces black. DESIGNER *Per Lütken*. MAKER *Holmegaards Glasværk A/S*, Copenhagen.

**Denmark** Part of an entirely new range of stainless steel cutlery and flatware. DESIGNER *Magnus Stephensen*. MAKER *Georg Jensen Silversmiths A/S*, Copenhagen.





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## Overseas miscellany

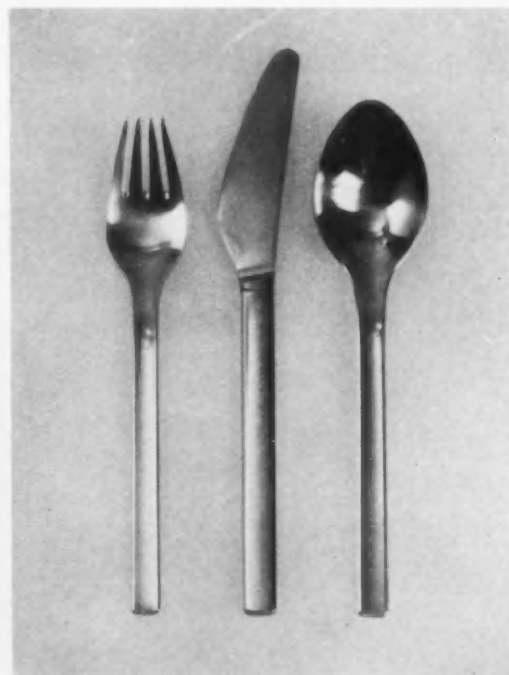
The illustrations on the following pages show some of the highlights of achievement among designers in 10 countries. Embracing a wide range of products and industries they serve as a useful basis from which to assess current British standards.

**Denmark** Sensitive use of woods by Danish furniture designers and manufacturers can be seen in this photograph of the furniture section of Copenhagen's Den Permanente – a selective permanent exhibition of well designed Danish products. Unlike The Design Centre in London exhibits are on sale to the public.

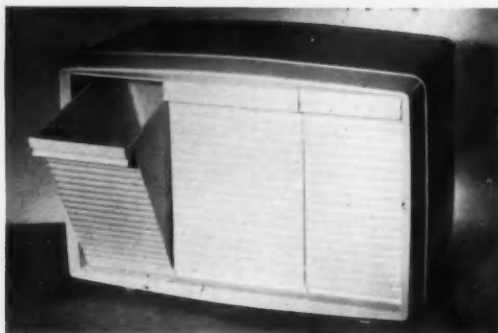


▲ **Denmark** Cased glass vase. The inner surfaces are green and the outer surfaces black. DESIGNER Per Lütken. MAKER Holmegaards Glasværk A/S, Copenhagen.

▼ **Denmark** Part of an entirely new range of stainless steel cutlery and flatware. DESIGNER Magnus Stephensen. MAKER Georg Jensen Silversmiths A/S, Copenhagen.



Overseas  
Review



▲ **USA** This compact cabinet is designed to contain the basic cooking ingredients normally stored in separate canisters. Made of red, yellow, white and charcoal plastics with white bins, the cabinet measures 14½ inches by 9 inches by 8 inches deep. DESIGNER *Henry Keck Associates*. MAKER *B. W. Molded Plastics, California*.

▲ **USA** The 'Payloador', a four wheel drive tractor shovel, was one of the three designs chosen by the American Industrial Designers Institute for its 1956 awards. These awards are given each year to no more than three designers or design groups for outstanding mass produced and nationally distributed designs. DESIGNER *Jon W. Hauser*. MAKER *Frank G. Hough Co, Illinois*.



▲ **USA** Sheet steel, finished off-white, is used for the shell of this chair. The upholstery is foam rubber moulded in a single unit which snaps into place over the rim of the shell. DESIGNER *George Nelson and Associates*. MAKER *Herman Miller Furniture Co, Michigan*.



▲ **USA** The simple appearance of this office chair disguises a complex supporting structure which can be adjusted to fit a wide range of human body sizes. Based on the findings of the American Posture Research Institute, adjustments include height of seat, depth of seat, width between arm rests (on the armchair versions), position of backrest, tension of reclining back rest. Upholstery is foam rubber and a wide variety of coverings is available. DESIGNER *Raymond Loewy Associates*. MAKER *Do More Chair Co, Indiana*.

▲ **USA** This three-inch diameter electric motor is one of a range of synchronous and induction motors intended for recording instruments, timers, small blowers etc. Both two-pole and four-pole systems are available and horse power ratings range from 1/200-1/40. DESIGNER (casing) *Raymond Loewy Associates*. MAKER *National Pneumatic Co Inc and Holtzer-Cabot, Massachusetts*.





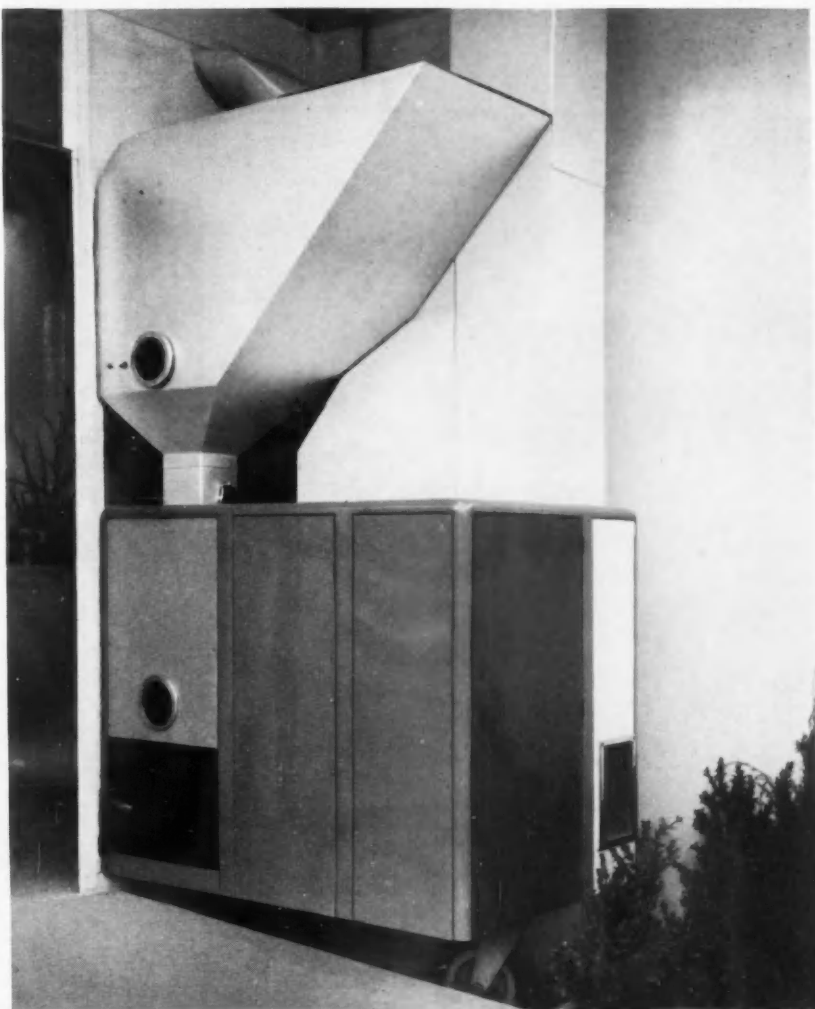
USA Examples from a china dinnerware service available in plain white glaze or in seven decorated versions. The brass warmer for the coffee pot shows effective use of simple contrasting materials. DESIGNER Ben Seibel, MAKER Iroquois China Co, New York.

USA This chair for children has a moulded polystyrene seat supported on black anodised iron rod legs with polyethylene tips. The legs are attached by a metal clamp screwed to the seat. DESIGNER R. L. Propst, MAKER Furniture Co, Colorado.



France This mobile air heating unit formed part of the experimental plastics house at last year's 'Salon des Arts Ménagers', Paris. It was designed to be placed against the exterior of the house and is connected to pipes which distribute hot air to all rooms. It can be wheeled to the garage and stored there during the summer. The hopper feed holds three weeks supply of coal. Made for Charbonnages de France. PHOTO Sam Lambert.

France 'Fire Ball S' butane gas heater, is a self contained unit on wheels. The gas cylinder is contained within the wrapped steel casing which is covered on the outside by a removable red or tartan patterned plastic coated fabric. The bottom rim and complete top section are made of black enamelled cast iron. MAKER Faure et Cie, Ardennes.

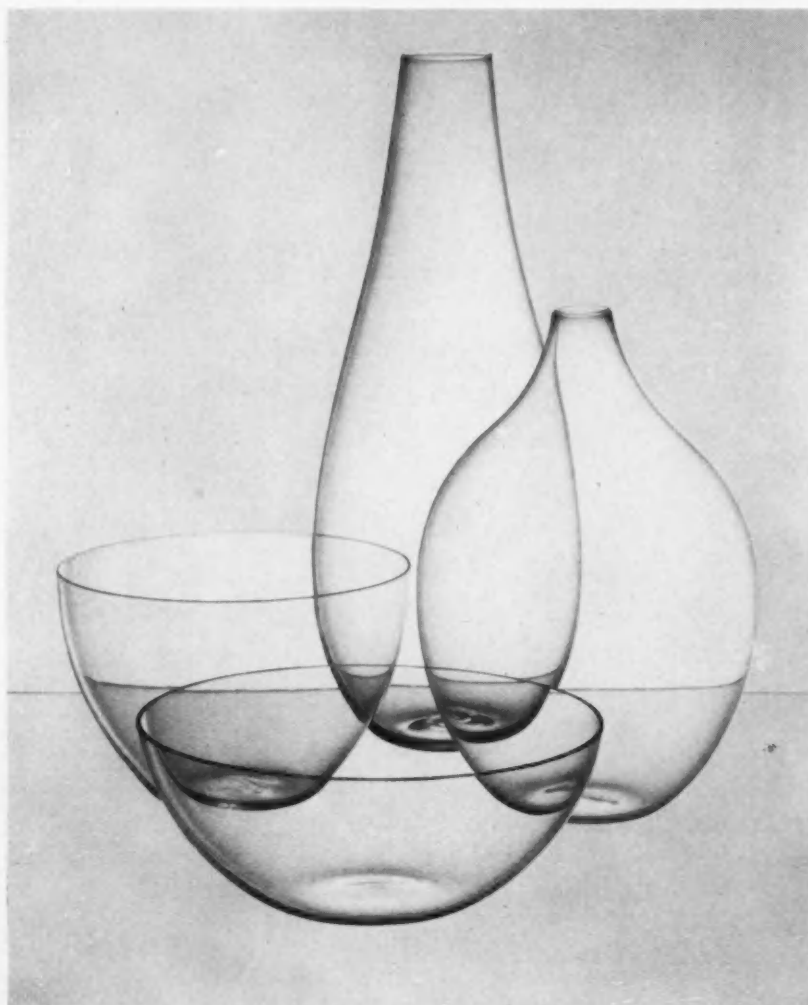




▲ **Canada** This vitreous china wash basin with its slim tapering pedestal was one of about 70 products which received design awards from the Canadian National Industrial Design Council last year. Awards are given for outstanding designs based on appearance, usefulness and consumer acceptability. The basin is finished in seven colours in addition to white and is available without the pedestal. **MAKER** Canadian Potteries (Division of Crane Ltd), Quebec.



▲ **Norway** Teak and woven cane are combined with unusual grace in this armchair. It is available in Great Britain from Trollopes, West Halkin Street, London W1, whose new showroom for modern furnishings includes a selection of Continental designs. **DESIGNER** Gustav Bahu. **MAKER** Rastad & Relling.



▲ **Sweden** The sensitive shapes of these thin-walled bowls and vases express the evasive charm which characterises the glass medium. **MAKER** A-B Orrefors Glasbruk.

**Sweden** This electric calculator was redesigned to simplify handling and operation. Keys have been moulded to fit fingertips and attention is focused on the centre panel by contrasts of colour and texture. **DESIGNER** Sigvard Bernadotte and Acton Bjorn. **MAKER** Aktiebolaget Atvidabergs Industrier, Stockholm.

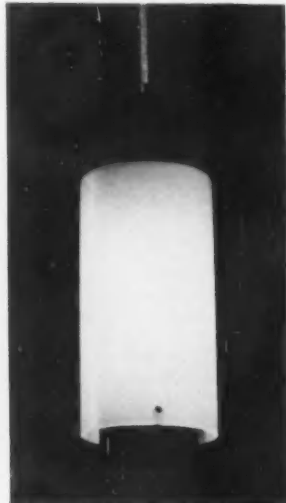




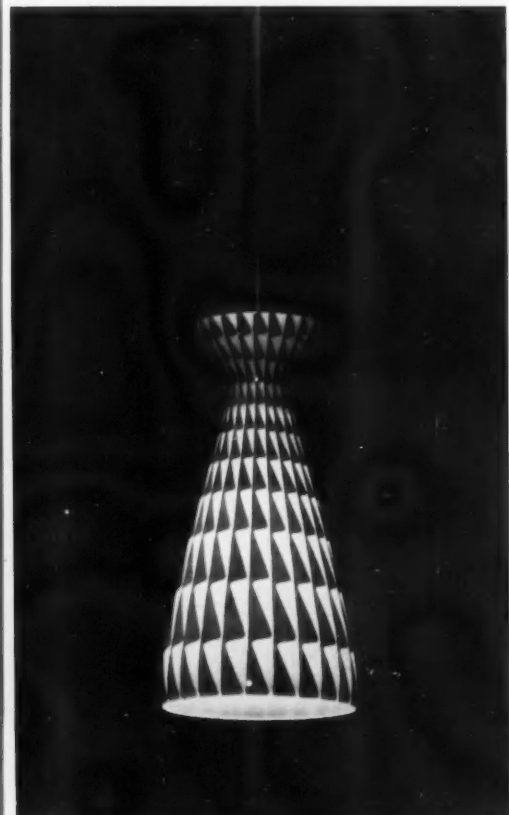


▲ **Switzerland** Dining table and chairs make use of chromium plated tubular steel and have a stark simplicity characteristic of many Swiss designs. The chairs have formed plywood seats and those on the left are stacking. DESIGNER (chairs on right only) Hans Bellmann. MAKER Möbelfabrik Horgen-Glarus AG, Glarus.

Germany Telephone redesigned from an earlier model to provide a more compact arrangement with flush dial and call button. DESIGNER Professor Walter M. Kersting. MAKER Telephonbau und Normalzeit.



▲ **Switzerland** Pendant lighting fitting consists of a black metal reflector supporting a cylinder of white opal glass. MAKER BAG Bronzwarenfabrik AG, Turgi.



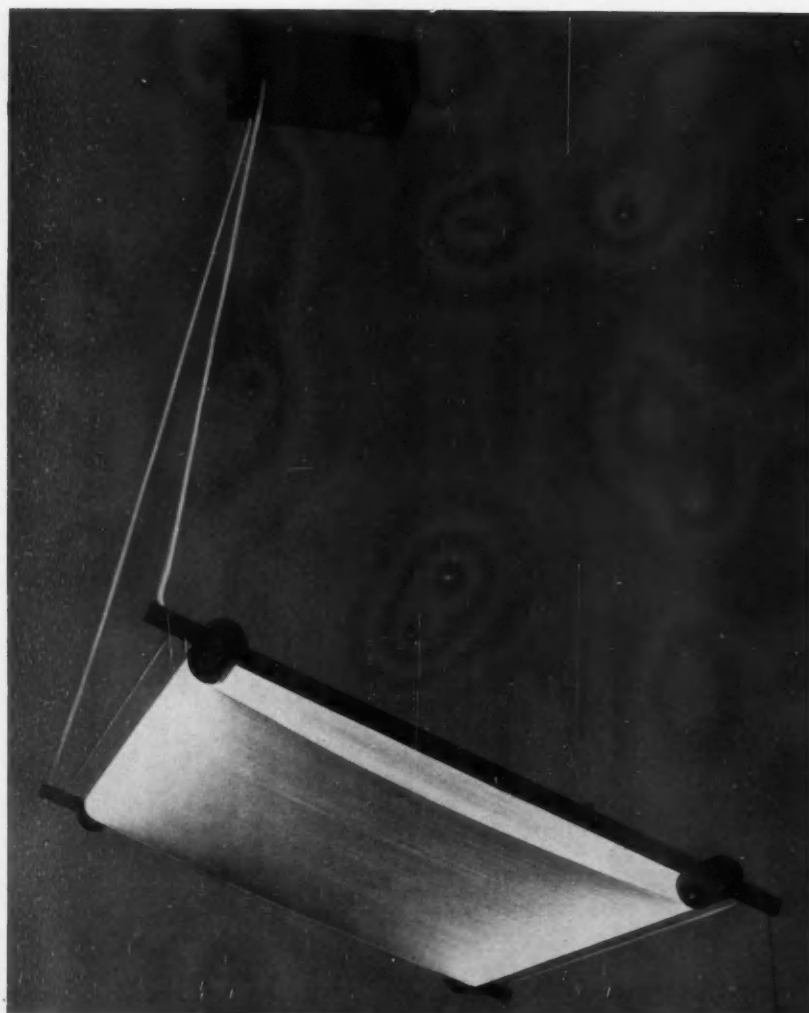
▲ **Germany** Cabin scooter powered by a 175cc single cylinder four-stroke engine. Construction is on a tubular steel framework. A cruising speed of 40 mph at 94 mpg is claimed. MAKER Heinkel. U.K. DISTRIBUTOR Noble Motors, 23 Piccadilly, W1.

▲ **Germany** One of a wide range of decorated lamp glasses. The pattern on this example is in green, yellow or orange. DESIGNER A. F. Ganghofner. MAKER Peill & Putzler Glashüttenwerke GmbH, Düren.



◀ **Finland** Glasses of many colours stack inside each other. The idea is expressed in the decorative treatment of the cylindrical pack. **MAKER** Notsjö Glasbruk. **UK DISTRIBUTOR** Finnmar Ltd, 26 Kingly Street, W1.

**Finland** Screen printed cotton in warm brown and black from the recent exhibition of Scandinavian wallpapers and fabrics at the Victoria & Albert Museum. **DESIGNER** Vuokko Eskolin. **MAKER** Printex Oy, Helsinki.



◀ **Italy** An original solution for a fluorescent pendant has resulted from a new arrangement of components. The lightweight framework carrying the twin tubes is adjustable in two planes and is supported from the ceiling box containing the starter gear. The sheet of polythene or cotton wrapped round the tubes gives a diffusion of low intensity. **DESIGNER** Gino Sarfatti. **MAKER** Artelux Soc Acc, Milan.

## REPORTS & CONFERENCES

### CoID Scottish Committee

Three new members have recently been appointed to the CoID Scottish Committee. They are A. Augur East, chairman and managing director of East Brothers Ltd, Dundee, J. D. Stewart, managing director of Wylie & Lochhead Ltd, Glasgow, and Ian W. S. Wilson, a director of Pillans & Wilson Ltd, Edinburgh.

Mr East has been in the furniture industry for 28 years. Besides his directorship of East Brothers Ltd, he is also managing director of John Scott & Co (Dundee) Ltd, as well as being a member of the executive committee of the Scottish Furniture Manufacturers Association. He joined East Brothers Ltd in 1928.

After qualifying in Glasgow as a chartered accountant Mr Stewart held executive positions in several firms in England and Scotland before joining Wylie & Lochhead Ltd as secretary in 1935. He became a director in 1951 and was appointed managing director in 1956. As international commissioner for Scotland in the Boy Scout movement he travels widely and has, therefore, many opportunities for studying developments in design and retailing in other countries.

Mr Wilson has been in the printing industry for 24 years. He started with R. & R. Clark Ltd, one of the oldest printing firms in Edinburgh and went from there to the Central School of Arts and Crafts in London for one year, subsequently studying gravure and offset litho printing methods in Germany. Mr Wilson joined Pillans & Wilson Ltd of Edinburgh in 1935 and became a director in 1956.

### British designers in US quarterly

A recent issue of 'Design Quarterly', published by the Walker Art Centre, Minneapolis, was devoted to the work of eight British designers. Misha Black, Robin and Lucienne Day, Abram Games, Milner Gray, W. M. de Majo, Ernest Race and Hans Schlegel were included in the survey.

### US award for director, CoID

Sir Gordon Russell, director CoID, is seen here (left) receiving the bronze medal of the Parsons School of Design in New York, from Pierre Bédard, president of the school.

Before visiting New York Sir Gordon spent a fortnight in Canada where he attended the opening of the Canadian Design Centre's new premises in Ottawa and lectured on industrial design in several Canadian cities. He also appeared on two television programmes.



### Princess Royal at The Design Centre

HRH The Princess Royal is seen here with Paul Reilly, deputy director, CoID, during her recent visit to The Design Centre. She spent about an hour looking at the exhibits in the Centre and was especially interested in the leather goods and the gay designs for towels and glass cloths that were on show. The Princess Royal also examined closely many of the colourful exhibits of kitchenware and showed a keen awareness of the need to produce well designed articles at reasonable prices.

### Management and design

Industrial design was a subject for lively discussion at the National Management Conference organised at Harrogate from October 31 - November 2 by the British Institute of Management. D. W. Morphy, joint managing director, Morphy-Richards Ltd, spoke to a well attended sectional meeting on the question "The design function - gap or bridge between sales and production?" He recalled the theme of his paper to the CoID's 1956 Design Congress by emphasising again the importance of suiting a design to its method of manufacture. "I try to impress on draughtsmen" he said, "that every line they make with a pencil represents some fabricating operation. Treatment that is suitable for a sheet metal pressing is probably wrong for a diecasting or a plastic moulding . . . it is not sufficient to draw a fashionable shape and then find out whether it can be fabricated . . . Even when we need some relief or decoration, detail suggested by the craft is more likely to look right than the addition of a motif borrowed from current fashion".

L. S. Lebus, joint assistant managing director, Harris Lebus Ltd, took the chair and the discussion was opened by Paul Reilly, deputy director, CoID.

### Hunting the consumer

The Furniture Development Council held its annual marketing conference in mid-November, with the general theme of how to sell more furniture. Sales of furniture have not risen as fast as sales of other durable consumer goods, either by value or volume. As J. Gilchrist, the FDC's statistician, said, "furniture is the Cinderella of the consumer durable industries", and furniture sales have not kept pace with the rise in real income since 1938. This seems surprising in view of Dr Mark Abrams' statement at the conference that the English spend more time in their homes than any other nation. Dr Dennis Chapman maintained that furniture sales had been boosted as an expenditure

complementary with that for other goods in the home: that if people had spent less on television sets and washing machines, they would have spent even less on furniture.

The furniture manufacturer members of the conference laid the blame on the industry's poor salesmanship and the small amount of money spent on advertising. Better selling techniques and bigger and more skilful advertising campaigns were in the main thought to be the solution. Only an occasional speech looked for deeper causes and solutions involving the consumer.

Only once in the discussion was there an appeal for money to be diverted from a possible advertising campaign into design, design training and a study of new techniques. An increase in turnover, it was said, should come from merit in the furniture rather than from advertising.

The conflict thrown up by the conference was that the industry wants to know how to sell more furniture, whereas the public's problem is surely to find furniture better fitted to its needs.

ROSETTA DESBROW

### 'Whither Design?'

The inaugural address of the 203rd session of the Royal Society of Arts was given this year by Robert W. Holland, chairman of the Council of the RSA. He discussed various aspects of present day design from the layman's point of view, covering such fields as carpets, packaging, stained glass, transport and furniture. Mr Holland then went on to ask whether enough

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### Resignation of display manager

Eric Lucking has recently resigned from his position as display and publicity manager with Liberty & Co Ltd, of Regent Street. Mr Lucking has been with Liberty's for the past 10 years, and during that time the shop has become well known for the high standard of its window displays. Below, a typical 'Lucking' window.



# THE SWEDISH FURNITURE FAIR

All kinds of furniture available in Sweden, as well as Swedish fabrics for upholstery and interior decorating, will be on display from March 6 to 9, 1957, in St. Erik's hall on Lidingövägen in Stockholm. Two hundred and twenty-five companies will be represented. The Fair will occupy more than 100,000 square feet of floor space. The Fair is open only to dealers. Individual invitation cards are required for admittance. Cards are available free of charge from :

The Swedish Furniture Manufacturers' Association  
Box 14012  
Stockholm 14, Sweden

Please state the names of those who wish to visit the Fair and the name of the firm they represent.

**The Swedish Furniture Manufacturers' Association**

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provision was made today for training in design, and suggested the need for an Institute of Design with university affiliation. He pointed out that this is by no means a new idea, and that while earlier attempts had failed, the time might be ripe to try once more. He concluded: - "My Institute of Design has a parallel in the Institute of Education and the Theological College. It should provide a post-graduate course fed by the universities from both the Arts and Science Faculties, and should cater for graduates proceeding to management in industry, or those deliberately aiming at a career in design. Research would be an important point of the course in which the teaching staff and students would form a team."

## Homes for old people

At the recent Conservative Party Conference, Patricia Hornsby-Smith MP, Parliamentary Secretary to the Ministry of Health, discussed the design of old people's homes. "The day of the vast barrack like institution remote from the community stands condemned" she said, as well as "the dirty brown and pond green walls, and the porridge coloured curtains, the long tables and the miserable lights." But at the same time she urged local authorities not "to go mad on the last word in contemporary design". Old people liked to feel cosy and to bring with them the possessions and the atmosphere of their former homes. "By all means make good use of design and colour", she continued, "let the rooms be gay and cheerful - but it is the old people's home and let's not forget that old people like to be cosy."

## New light on William Morris

During a recent lecture at the Victoria and Albert Museum, Peter Floud put forward some unexpected conclusions he has reached on the work of William Morris, as a result of an examination of hitherto unpublished evidence in the possession of the Patent Office. These concern the designs for textiles and wallpapers registered for copyright purposes by the Morris firm. On the basis of this new evidence Mr Floud has been able for the first time to place almost all William Morris's designs in strict chronological order. From this it appears that Morris's designs went through three phases (see below). From 1864 to about 1876

they were free and naturalistic; in 1876 they became rigidly symmetrical and conventionalised; after about 1883 they became somewhat freer again, usually incorporating both formal and naturalistic details side by side. Mr Floud believed that the sudden loss of spontaneity after 1876 resulted from Morris's first preoccupation with weaving, and with the symmetrical patterns appropriate to the loom, and more particularly from Morris's close study of the historic woven textiles in the collections of the South Kensington Museum.

## Centenary of W. R. Lethaby



W. R. Lethaby from a plaque by Gilbert Bayes, now in the possession of the RIBA.

William Richard Lethaby was born on January 18, 1857. This was a year of pioneers for design in industry - William Morris, Phillip Webb and Edward Burne-Jones were then discussing ideas, which were later to become known through the works of Morris and his associates, and the man most responsible for developing and forwarding these ideas was W. R. Lethaby.

As first principal of the Central School of Arts and Crafts, and from 1900 Professor of Design at The Royal College of Art, he was in a strong position to teach the true relations of art to craft, and design to industry. W. R. Lethaby was in fact a leading pioneer in the teaching of design as an integral part of production.

His work is reflected in the many societies he encouraged, often as a founder member. These include the Art Workers' Guild, The Arts and Crafts Exhibition Society, The Red Rose Guild, and The Design and Industries Association. He was also noted for his work in both architectural and antiquarian studies. It is to be hoped that in celebrating his centenary the many varying aspects of his work will be stressed. There will be a lecture on 'The life and work of W. R. Lethaby' by A. R. N. Roberts at the Royal Society of Arts, John Adam St, WC2 at 2-30 pm, January 16.

MICHAEL MURRAY

## COMPETITIONS

### Horners' award

The results of this year's Horners' award competition have recently been announced. E. J. Arundell, a free lance designer, was awarded the first prize for the design of a portable TV cabinet in phenolic and polystyrene materials. The competition was organised by the British Plastics Federation, 47 Piccadilly, W1, and candidates under 30 years of age were asked to submit designs suitable for moulding in plastics materials.

### Poster for the Milan 'Triennale'

Details of an international competition for the design of a poster to advertise the eleventh Milan 'Triennale' have been announced. The closing date for entries is January 15, and competitors are asked to submit one sketch to: Triennale di Milano, Concorso Internazionale per il manifesto, Palazzo dell'Arte al Parco, Viale Alemagna 6, Milan.

## EXHIBITIONS

### Wallpapers in Manchester

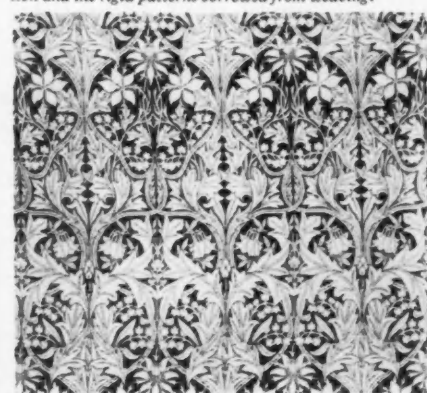
An exhibition of cotton furnishing fabrics and a new range of 'Palladio' wallpapers by the Wall Paper Manufacturing Co Ltd is now on show at the Cotton Board Colour, Design and Style Centre, 19 York Street, Manchester 2, until January 26. The new 'Palladio' range is the second collection of silk screen printed papers produced by the WPM group and

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William Morris's 'Jasmine' wallpaper (1872) typical of his early flowing and naturalistic style.

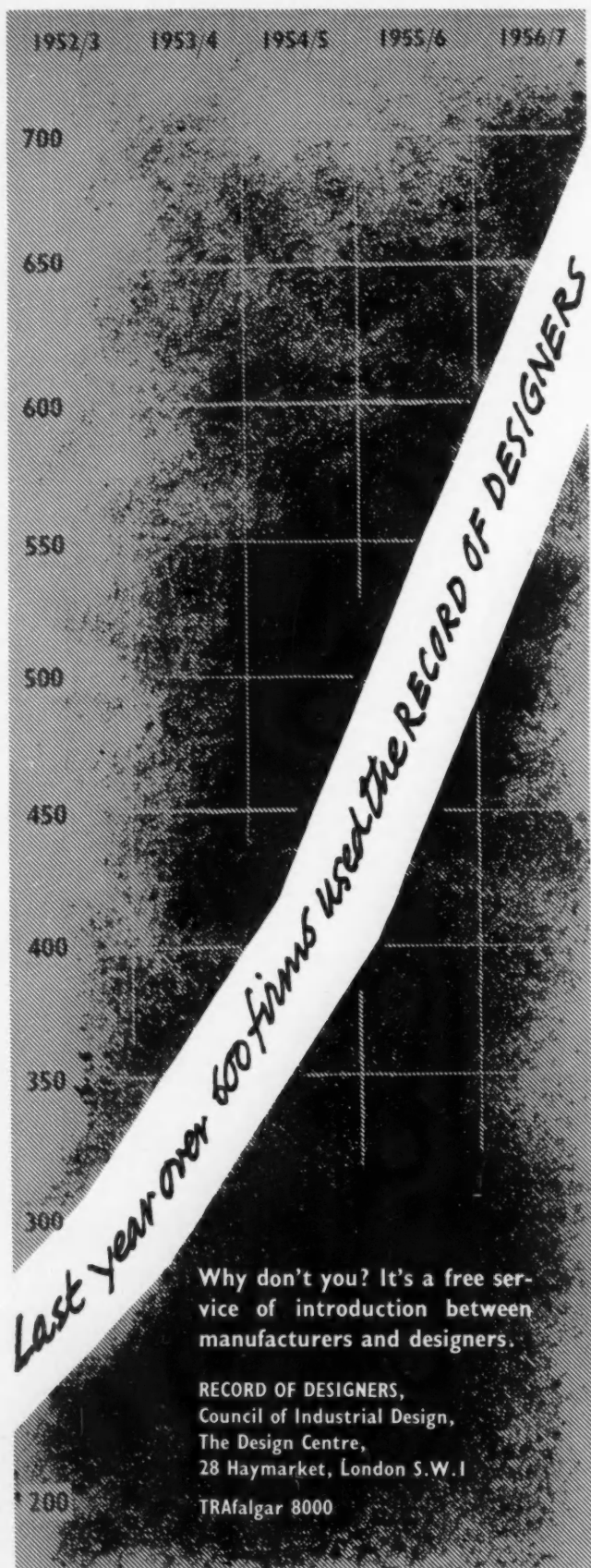


'Bluebell' chintz (1876) showing the change to formalisation and the rigid patterns borrowed from weaving.



'Evenlode' chintz (1883) with a juxtaposition of naturalistic and formal details typical of his last phase.





18'6"0" x 2'8" stacking tables in oak used by the Queen's University, Belfast



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"Marine" stacking chair in teak and pre-formed bonded mahogany plywood impervious to sea water and humidity.



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continued from page 59

includes the work of 17 British designers. In exploiting the characteristics of the silk screen technique, these papers reveal the considerable progress that has been made since the first collection of a year ago. Some of the papers will be illustrated in colour and discussed in the March issue of *DESIGN*.

## Packaging Exhibition

The 'Packaging Exhibition' will be held at Olympia from January 22-February 1; manufacturers from many countries will be represented, and all the packs submitted for the British Paper Box design contest will be on show.

## MISCELLANEOUS

### New liner

The Orient Line has appointed Design Research Unit and Brian O'Rourke to design the public rooms of its new 40,000 ton liner SS 'Oriana' which is being built by Vickers-Armstrongs (Shipbuilders) Ltd.

DRU will be responsible for the co-ordination of all interior fitting, decoration and furnishing and Mr O'Rourke will act as consultant designer, working in close association with the managers of the Orient Line and its naval architect, C. F. Morris. DRU and Mr O'Rourke will each undertake the detailed design of selected areas of the new ship and other designers will later be appointed to collaborate with them.

Professor R. D. Russell has been commissioned to design the passenger accommodation.

### DIA president

Lord Conesford has been elected president of the Design and Industries Association, in succession to Sir Stephen Tallents. The DIA announces that a few copies of its Year Book are available, price 1s, from the Secretary, DIA, 13 Suffolk Street, SW1.

### George Breeze

The sudden death on Saturday November 24 of George Breeze has deprived the CoID of one of its most active, popular and enthusiastic members. He had served on the Council since May 1952 and was a valued member of its information committee to which

### Gavel for chairman, CoID

Leslie Gamage, who retired from the CoID last June, after serving as a member since 1944, recently presented this gavel to W. J. Worboys, chairman CoID.

The gavel was designed by Professor R. Y. Goodden, and is intended for use at CoID meetings. It is made of Australian black bean wood, with an ivory cap. The inscription on the base commemorates Mr Gamage's service on the council, CoID.



he had been appointed chairman shortly before his death. As the director of equipment, display and furniture for Lewis's Ltd he brought to the Council a



George Breeze

wide knowledge of the retail trade and from the Council a real enthusiasm for raising standards of design in shops both in their merchandise and display. Many hundreds of young salesmen and women who have attended the Council's various courses at Attingham Park and the Wedgwood Memorial College, Barlaston, have benefited from his friendly constructive advice on the retailers' responsibilities which he so often gave at the final sessions of the courses. His membership of the Council's 'Design Review' selection committee always enlivened the discussions on the goods reviewed but at the same time related the committee's judgments to practical considerations of the trade.

Mr Breeze, even before the last war, was associated with the pioneering policy of Lewis's Ltd in showing well designed modern furniture in room settings at modest prices, a policy which in recent years he had actively pursued throughout the group. His interest in display and his knowledge of the problems of maintaining variety and impact in a permanent but changing exhibition were of great assistance in the setting up and running of The Design Centre. He will be sadly missed by his friends and colleagues in the Council and by all who had the good fortune to experience his zest for "the well doing of what is worth doing" - which was how the late Professor Lethaby once defined good design.

P.R.

### SIA award to Dutchman

The annual design award of the Society of Industrial Artists has been presented to Jan van Krimpen, the Dutch type designer and typographer. Mr van Krimpen received the award on the occasion of the Society's Design Oration, given by R. Furneaux Jordan on 'Architecture and Industrial Design'.

### Furniture for Antarctic station

H. Morris & Co Ltd, the furniture manufacturer of Glasgow has supplied furniture for use in the Ice Cap station during the British exploration of Antarctic this year.

### CoID Scottish Committee course

For the third successive winter, the CoID Scottish Committee is presenting its 'Furnishing the home'

course, in conjunction with the Corporation of Glasgow Further Education Department. The second of this winter's courses begins on February 5, and will be held weekly until March 12, at the Scottish Film Council, 16-17 Woodside Terrace, Glasgow, C3. The fee is 10s and enrolment is now taking place.

### CoID colour filmstrip

The education department of the Co-operative Union and the CoID have recently produced a film strip on interior decoration, called 'Colour and pattern in your home'. This is available with lecture notes from the Education Department, Co-operative Union Ltd, Stamford Hall, Loughborough, or from the CoID, 28 Haymarket, SW1, price 27s 6d (28s by post).

### Appointment for member of CoID staff

Joyce Blow, who is assistant press officer, CoID, has recently been elected to the Council of the Institute of Public Relations. She is the first woman to be elected to the council.

### New factory

In order to increase production, Hanovia (Lamps Division of Engelhard Industries Ltd), the manufacturer of 'Radisil' heaters, has opened a new factory at its premises in Slough.

### Stamp design

The opinions expressed in the series of articles on stamp design by Edgar Lewy (see page 48) are the author's own, and do not necessarily represent the views of the Philatelic Traders' Society Ltd, of which he is secretary.

### Hungarian Relief Fund

The organisers of the Hungarian Relief Fund are still in urgent need of contributions if their work among refugees is not to diminish. Readers are asked to send their contributions to: The Hungarian Relief Fund, 5 Arundel Gardens, London W11.

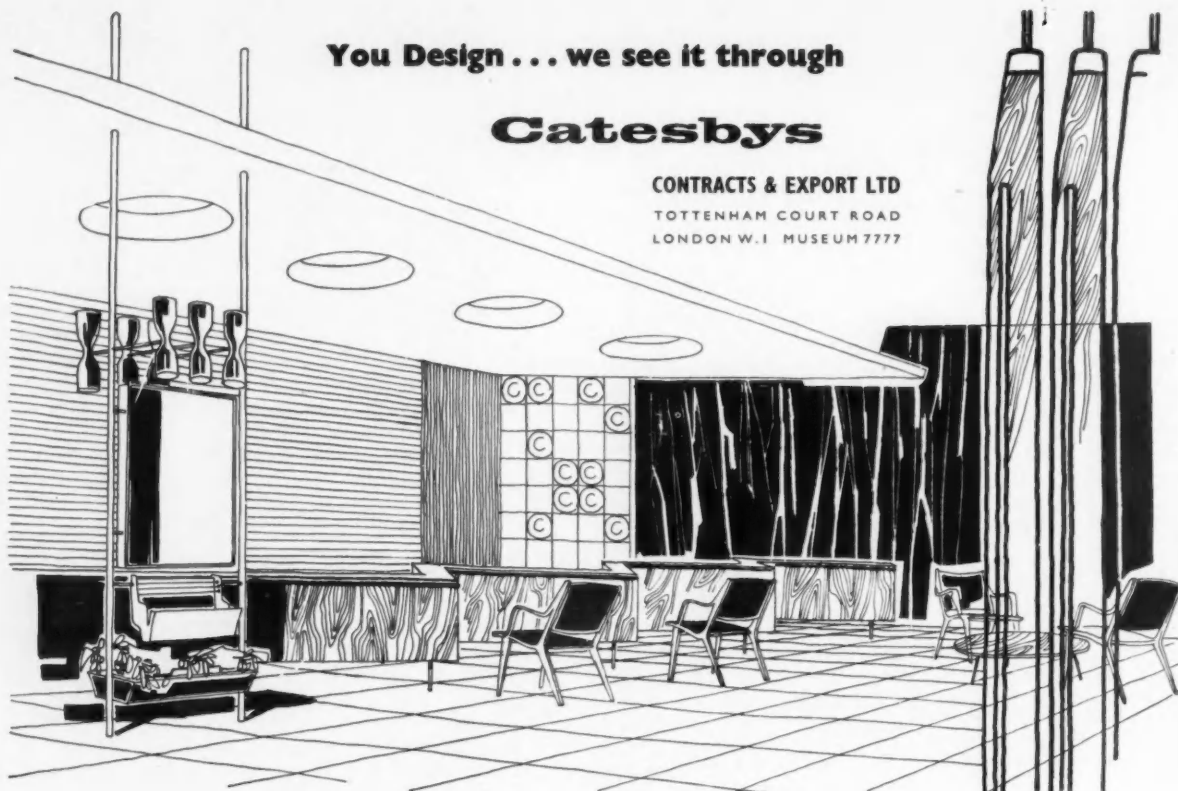
### The Lord Mayor's show designed



Sir Cullum Welch in the traditional gilded coach.

For the first time since the Middle Ages the Lord Mayor's show this year was devoted to a single industrial product - aluminium. At the request of the new Lord Mayor, Sir Cullum Welch, the British Aluminium Co Ltd mounted the show and Ronald Dickens was appointed to design the 16 floats. These demonstrated the many uses of aluminium in industry and in the home - 'Bon Viveur', the well known cookery team, cooked a meal with aluminium utensils

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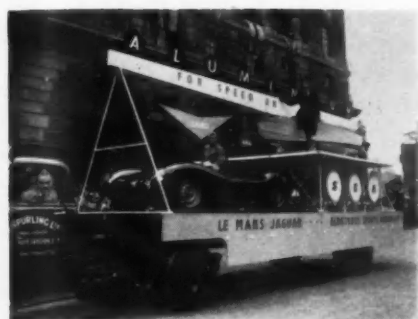


## LETTERS

continued from page 61

in an all aluminium kitchen, and a model ship with an aluminium superstructure was surrounded by mermaids with aluminium hair and tails. The floats were lively and imaginative, and the choice of a single theme gave the show the unity that it has sometimes lacked in previous years.

One of the floats in the Lord Mayor's show - 'Aluminium on land and sea'.



## LETTERS

### The market for good design in Britain

SIR: Why is good design so universally expensive in Britain?

I am here on a visit to my native country after an eight-year stay in the USA. There, because of the rapid development of a mass market for well designed consumer products, it is possible to surround oneself with lovely things without going into debt in the process.

America, in fact, seems to be at the threshold of a veritable renaissance in design, not only in the 'cultured' groups, but at all levels short of the very poorest. Designers like McCobb, Loewy, Russel Wright, Eva Zeisel and Nelson are nationally recognized by a very wide group of the public; their names on a product mean not only good design, but mass sales.

Where are the popular British designers? Where is the publicity, so essential to foster and stimulate public interest? Why don't the home magazines work more closely with designers and manufacturers in promoting and popularising the whole concept of good design in the home? Why isn't the consumer 'brought into things' more by constant stimulation of his own ideas? If it comes to that, why is the whole concept of good design in the home an alien one, particularly amongst British males?

As a nation, we depend too much upon the acceptance of our goods in overseas markets to ignore completely the stultifying effect of domestic demand upon current product design. Unless we make our own market conscious of good design to the point where the majority will refuse to buy trash, then we shall never create a mass market for well designed goods; in turn we shall never be able to offer the world well designed products at low prices.

R. G. K. ANSON  
Gaynor Colman Prentiss & Varley Inc  
New York

## BOOKS

### British scooters — a new industry?

SIR: With reference to the article 'Where are British scooters?' (DESIGN October pages 22-28), for a year or two now the Press and public have demanded British scooters, and many have looked to the motor cycle manufacturers to take the initiative.

It is surely wrong to expect specialists in motor cycle design to drop a craft and trade of which they have a thorough understanding, and risk their well squeezed credit and capital in a comparatively fresh field.

I believe that if Britain is to catch up with the output of Continental firms in this field, and fulfil the vast needs of home and export requirements, capital for an entirely new industry will have to be found, and the brains of the car and motor cycle worlds combined.

E. A. BARRETT  
H.B. Engineering Co  
Newton Road  
Tottenham, N15

### HOUSE STYLE

#### The extent of a house style

SIR: I found your November issue most interesting and stimulating but it seemed to me that your analysis of house style did not go far enough.

One of the illustrations showed a handsome Spicers' card which read: "I hope to have the pleasure of calling on you on or about . . . when the favour of your orders and enquiries will be esteemed and receive every attention".

Surely half the point of creating an effective house style is lost if content is not made to match form. I realise that much of the force of your November issue comes from the limited thorough treatment given to the subject, but I think — without carping — that you might have found that there was something useful to say about content within the terms of the discussion.

Incidentally, one element in the house style of The Design Centre jarred when I paid my first visit recently: the condition of the flags was unworthy of the street front.

ROBIN HARLAND  
1 Chapel Close  
Kendal  
Westmorland

### Students and printing firms

SIR: I was very interested to read Noel Carrington's remarks in a recent issue of DESIGN (November page 37), expressing the hope that some students will be drawn in to the printing industry instead of being secured by advertising firms.

Before the war I was 'at the frame' with a printing house in Birmingham, with which Noel Carrington was then connected. He may even remember me as the operator of the Ludlow typesetting machine, in which he was invariably interested when he came down from London.

I found it impossible to improve my position although I obtained the City and Guild Certificate, the Master Printers' Layout Competition Certificate, had reviews printed in the 'British Printer', and studied intensively at night school.

After the war I decided to break away and enter advertising. After ten years in advertising I agree even more wholeheartedly with Mr Carrington that printing

firms badly need trained, enthusiastic students and hope that not only will the students be forthcoming but, what is more important, that the responsible people in the printing houses will give such students all the encouragement and help they deserve, lest they too become discouraged and find fresh fields to conquer.

LESLIE N. TEDSTONE  
Elliott Advertising Ltd  
Manton House, Birmingham

### Lettering and house style

SIR: I entirely disagree with the criticism of the 'John Collier' house mark (DESIGN November page 47). I recognised the mark instantly although I was only glancing at the page absent mindedly. Each letter is easily readable, the shape is extremely distinctive, and the pseudo handwriting definitely gives the impression of a smart, well dressed sort of person — in fact just the signature required to impart the idea of sartorial know-how — which I am sure is the exact message John Collier wishes to put over.

AVRIL SHANSON  
24 Penthurst Gardens  
Edgware  
Middlesex

## BOOKS

### Tomorrow's Landscape, Sylvia Crowe, The Architectural Press Ltd, 21s

To write a balanced book on aesthetics that is at once technically instructive, visually sensitive, realistic and readable, is no easy matter, but Sylvia Crowe has achieved this admirably.

She is acutely alive to the ever accelerating destruction of our natural and traditional environments by the growth of our population, its urbanism and the headlong march of technics and large scale industry, but wherever she does allow herself to lament the

continued on page 65

### Wallpaper manufacturer's showroom

John Line & Sons Ltd has recently opened a new showroom in Middlesbrough; the illustration shows the reception area where wallpapers are shown on specially designed screens; the ceiling is in 'saw-tooth' formation, and the reception desk was designed for the showroom. The architect was Jack E. Dalling.



By courtesy of W. R. Shepherd, Esq.,  
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continued from page 63

passing of old loveliness she is always ready with some sensible suggestion as to how things might be remedied or better managed.

Very clearly she sees that, save in our few and fast shrinking wilds, radical landscape adjustments are inevitable if we are to have a country still fit to live in. "Too great a density of human beings is just as much an ecological factor as a plague of rabbits", is her comment on our swollen population. Enough past history is glanced at to explain our present position and predicaments: "As our cities grew and our control over nature increased, so the wild landscape turned from a horrid wilderness to Wordsworth's paradise."

Miss Crowe is perhaps best of all in her clear classification - open country, farmlands, townsman's country, townscapes and the rest, and with her thoughtful consideration of the most appropriate use and treatment of each for our highest satisfaction as sentient seeing creatures, who, nonetheless are inevitably and everlastingly active in changing our environment for better or for worse.

Unlike many, she is alertly scale conscious, and this comes out refreshingly in her road recommendations, which I hope every member and officer of every highway authority will read and mark. What she particularly and rightly deplores is the unimaginative and unnecessary suburbanisation of authentic country by

the misguided introduction of brash urban materials techniques and ideas - spiked iron railings, asphalted paths, concrete, exotic shrubs and all the other stigmata of the encroaching town - unwelcome trespassers from, and reminders of the crude utilitarianism of our half civilization, from which, in rusticity, we seek escape. As a realist again, with long term views, she handsomely supports the much maligned Forestry Commission - seeing in its great planting operations one of the most hopeful ways of redeeming our otherwise derelict and dishonoured wastes, and of healing their scars. Those conservatively opposed to afforestation are reasoned with persuasively and told that "the evaluation of the landscape cannot stop dead at any one point in history, and indeed our own lifetime has probably seen the lowest ebb in the tree population since the ice age".

Whether she is familiar with the old Chinese aesthetic philosophy of Feng Shui or not - Miss Crowe is indeed its eloquent prophet. It was Sir Patrick Abercrombie's inflaming account of it that launched me on my book 'England and the Octopus' some 30 years ago, and the note therein certainly deserves expansion into a full length thesis. Miss Crowe would do it to perfection.

CLOUGH WILLIAMS-ELLIS

## Latin American Architecture since 1945, Henry-Russell Hitchcock, Museum of Modern Art, Alec Tiranti Ltd, £2 8s

Latin America has been the scene of one of the greatest building booms in history. The growth of modern architecture in Brazil has encouraged many architects in this country, but the spread of the Modern Movement throughout Latin America is not so well known, and its influence will obviously be considerable. Here is a group of countries, with a reputation for quick revolution, stabilising an architectural expression which, although differing from country to country, has its roots firmly in the European stream. Professor Hitchcock, in his excellent book, puts this architectural renaissance into historical perspective and analyses the various contributory factors. The most exciting aspect of the book lies in the photographs, and everyone with an interest in modern architecture must get pleasure from the presentation of such a variety of vital work.

One can make unfortunate comparisons with the staleness and confusion that exist in England and wonder whether our cautious committee approach provides the right climate for architectural development. The example in this book shows a stimulating absence of compromise and prejudice, and even if the town planning is often ineffective and repeats the errors of the US, the individual buildings display an extraordinary vitality and clarity. The work represented covers a variety of types of building from individual houses to stadia. If some of the work is coarse, at least it is clear that architects are able to set their own limits and suffer little from the preservation cranks that beset the path of the modern architect in England.

The book provides brief biographies of the various architects whose work is shown and it is interesting to note that many of these men received their training in the USA, whose policy of absorbing European architects is now bearing an unpredicted fruit - and this can be said without undervaluing the considerable influence of Le Corbusier.

ERIC LYONS

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## A conference room

Erwin Wasey & Co Ltd's drive for exciting and stimulating interior decoration in its Park Lane offices has been described in an earlier issue of DESIGN (October 1954, pages 26-28). This illustration shows a new conference room that has recently been completed for the firm by Miller & Tritton, chartered architects and surveyors. This international advertising agency needed a conference room where its various advertising schemes could be presented to its clients; and as well as a special display shelf, one wall is made up of sliding panels so that the schemes can be shown stage by stage.



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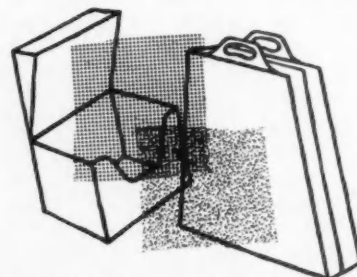


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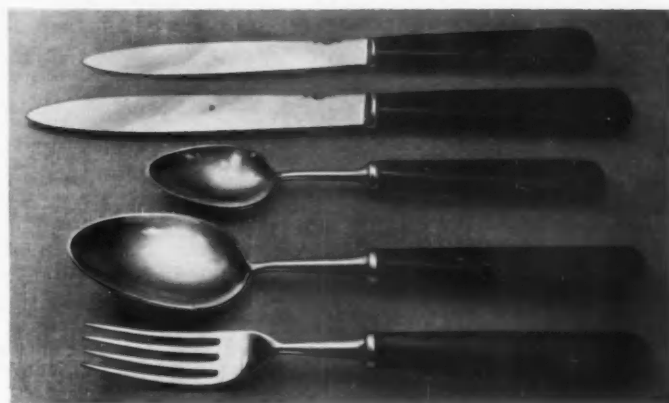
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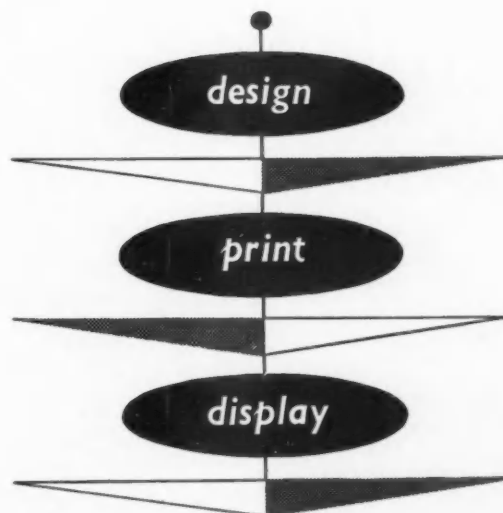
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E. L. RUSSELL  
Chief Education Officer

November 1956

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